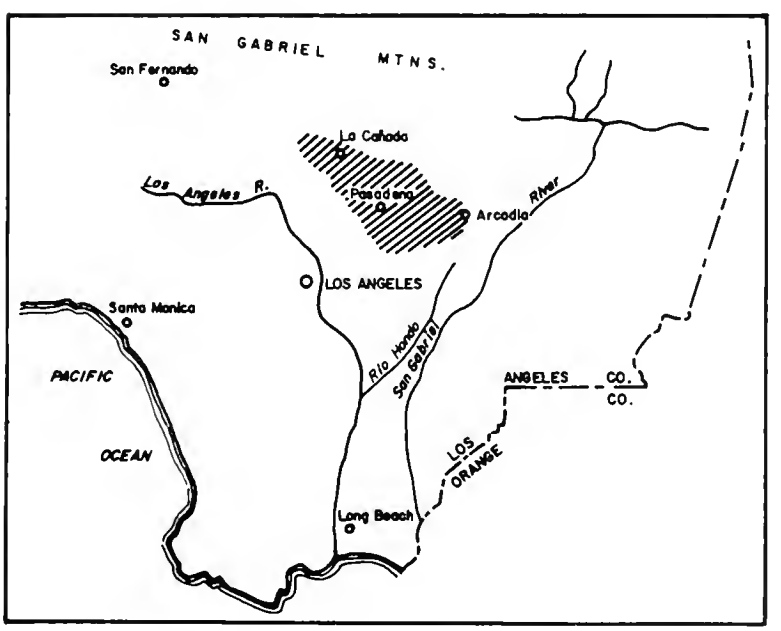
STATE OF CALIFORNIA

The Resources Agency

Department of Water Resources

BULLETIN No. 178-73

WATERMASTER SERVICE IN THE RAYMOND BASIN LOS ANGELES COUNTY



FOR PERIOD

JULY 1, 1972

THROUGH

JUNE 30, 1973

AUGUST 1973

NORMAN B. LIVERMORE, JR.
Secretary for Resources
The Resources Agency

RONALD REAGAN
Governor
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WILLIAM R. GIANELLI
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ABSTRACT

Above normal precipitation and runoff prevailed throughout the entire Raymond Basin area during the 1972-73 water year. As expected, water levels in the vicinity of Arroyo Seco spreading grounds and in the Eastern Unit increased. No water rights were permanently transferred during the year; however, 45 acre-feet were temporarily transferred in the Exchange Pool, and 735 acre-feet were leased. Basin management studies by means of the mathematical model were completed.

Item	1971-72 Fiscal Year	1972-73 Fiscal Year	Percent of change from previous fiscal year
Parties, number of	21	21	0
Active pumpers, number of	21	21	0
Active nonparties, number of	2	2	
Watermaster expenses	$ 23,739.87	$ 34,642.72	+ 30
Watermaster expenses, per acre-foot pumped	0.[illegible]	1.13	+ 30
Valley rainfall, in inches	8.35	28.08	+ 236
Runoff, in acre-feet			
Inflow	5,408	16,211	+ 200
Outflow	5,838	23,909	+ 310
Spreading operation, in acre-feet	1,217	7,072	+ 481
"Decreed Right 1955", in acre-feet	30,622	30,622	0
Extractions in side basin, in acre-feet	30,561	32,350	+ 6
Diversions, in acre-feet	2,475	4,673	+ 89
Imports, in acre-feet	30,913	23,047	- 26
Exports, in acre-feet	- 9,528	- 10,504	+ 10
Net Water Use, in acre-feet	54,419	49,630	- 9

State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

Ronald Reagan, Governor
Norman B. Livermore, Jr., Secretary for Resources
William R. Gianelli, Director, Department of Water Resources
John R. Teerink, Deputy Director

SOUTHERN DISTRICT

Jack J. Coe . . . . . Acting District Engineer and Watermaster
Mitchell L. Gould . . . . . Chief, Operations Branch and Deputy Watermaster

Watermaster service in this area was conducted
and report prepared under the direction

of

Clyde B. Arnold . . . . . Chief, Contracts Administration Section

by

Carlos Madrid . . . . . Deputy Watermaster

assisted by

Gabriel V. Valenzuela . . . . . Water Resources Engineering Associate
Cesar M. Garma . . . . . Assistant Civil Engineer
Raymond D. Woo, William H. McCann . . . . . Water Resources Technician II
Paul DeKonty, John Stanley . . . . . Water Resources Technician I
Pete Fielding . . . . . Engineering Aid II
Lillian Rabin . . . . . Clerk-Typist II Range B
Donna Infranca . . . . . Clerk-Typist II

FOREWORD

The Watermaster presents this annual report as a comprehensive review of water conditions in the Raymond Basin during the past fiscal year. It is prepared for the Superior Court, County of Los Angeles, and for the parties to that certain Judgment made and entered December 23, 1944, in the Superior Court of the State of California in and for the County of Los Angeles. The action is identified as Case No. Pasadena C-1323, entitled "City of Pasadena, a municipal corporation, Plaintiff, vs. City of Alhambra, a municipal corporation et al, Defendants".

The Raymond Basin, established as a watermaster service area under Part 4, Division 2, of the California Water Code, is monitored by the California Department of Water Resources. The basin has been operated for several years under a well-defined management plan, one phase of which limits ground water extractions.

This report covers the scope of the Watermaster's work, conditions of ground water supply, water use, ground water replenishment, variations from guidelines in the Judgment, and a complete financial report for the past fiscal year.

Jack J. Coe
Acting District Engineer
Southern District
and Watermaster
Reg. C.E. No. 8075

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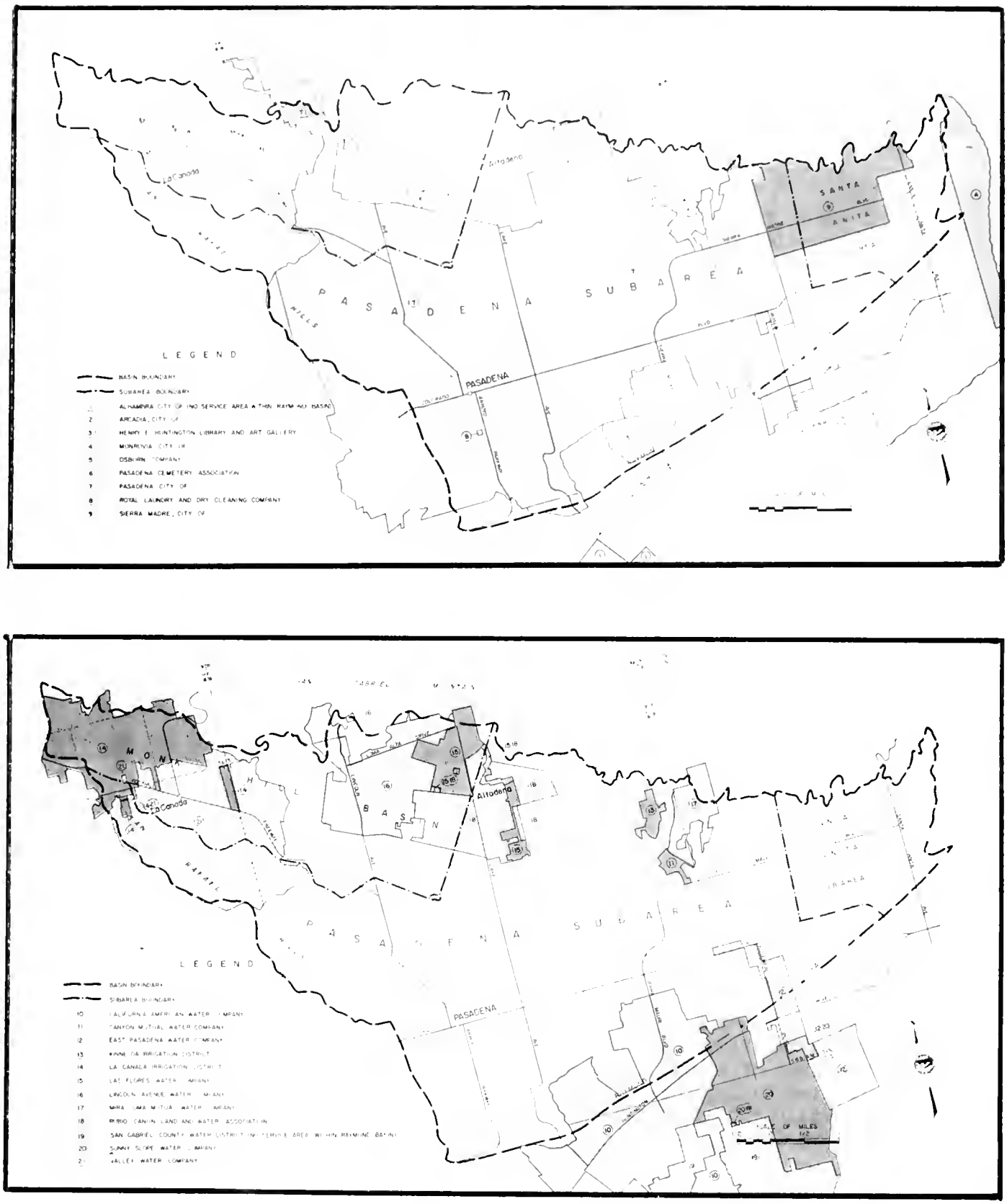


Figure 1. WATER SERVICE AREAS OF PARTIES TO WATERMASTER SERVICE, JUNE 1973

I. THE RAYMOND BASIN

A reliable source of potable ground water is a valuable asset to any community. The Raymond Basin, located in the northwest corner of the San Gabriel Valley, is such a source for the cities of Alhambra, Arcadia, Monrovia, Pasadena, San Marino, Sierra Madre, and the communities of Altadena and La Canada. Watermaster Service provided by the California Department of Water Resources helps to protect the rich supply of ground water for the residents and industries. Figure 1 depicts water service areas of the parties.

The Raymond Basin is a small, triangular ground water reservoir flanked by mountains on the north and west. The southern side is bounded by a seven-mile-long impervious dike formed by the Raymond Fault, which effectively separates the Raymond Basin from the San Gabriel Valley Basin.

Ground water has always had an impact on the people who live and work in the Raymond Basin. Most of the Basin's 40-square-mile area supports an urban-suburban population. The cities overlying the area use large amounts of fresh water daily, a substantial portion of which is pumped directly from the Basin.

Some years ago, when the ground water supply was endangered by rapidly falling water levels, timely legal action by interested water users halted the overdraft and prevented serious damage to the Basin. To prevent eventual depletion of ground water, the Judgment limited each party to a specific annual extraction. Certain variations were permitted but no variance could prevail beyond a five-year period. In 1955, provisions in the original Judgment were modified and variations from decreed right were restated, increasing water rights. Since then, these rights have been referred to as the "Decreed Right 1955", and for the basin as a whole equal 30,622 acre-feet per year.

Presently, all water used in the Basin, particularly ground water, is monitored by a court-appointed Watermaster who reports all significant water-related events occurring in the Basin to the Superior Court and parties to the Judgment.

Activities of the Watermaster

Accurate measurement of ground water extractions is absolutely essential to the success of the Basin's management plan. The Watermaster field staff calibrates the water meter on every active water well at least once every two years and uses every available means, including system efficiency tests, to confirm water meter test results. Inaccurate meters must be repaired within 30 days. Follow-up tests on repaired meters and initial tests on new wells are scheduled whenever necessary.

Once a month the Watermaster receives ground water extraction reports from ground water pumpers and updates each water right account by computing the amounts pumped during the previous month and the current fiscal year. This data establishes the amount of water that may legally be extracted by each pumper during the rest of the year.

The Watermaster measures depth to static ground water level in about 115 wells situated throughout the Basin in the spring and fall and prepares fall and spring contour maps of the ground water surface and a "fall-to-fall" map showing lines of equal elevation change in a one-year period. The Watermaster also operates nine stream gaging stations to measure surface flow.

The Watermaster began a sewage outflow measurement program during the 1968-69 season, using F-type water stage recorders on 12 major sewage trunk lines leaving the Raymond Basin. The measuring program was continued during the 1972-73 season.

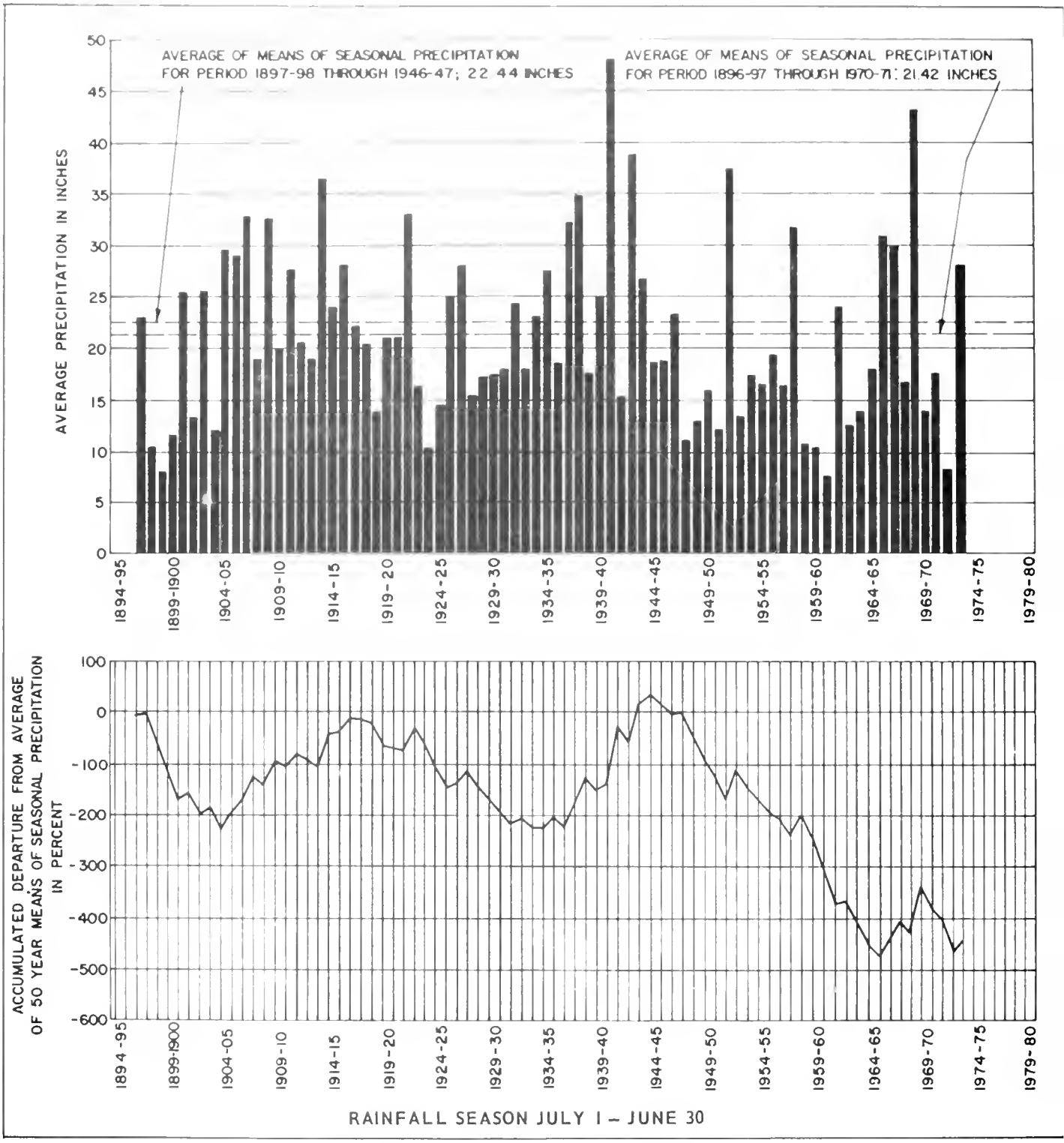


Figure 2. RAINFALL CHARACTERISTICS OF VALLEY STATIONS, 1896 – 1973

II. WATER SUPPLY

Southern California's urban economy is supplied by the Colorado and Owens Rivers, Northern California water, mountain runoff, ground water, reclaimed wastewater, and desalinated water. These sources contribute to one of the world's largest water supply systems.

Precipitation

The ground water supply of the highly permeable Raymond Basin could be considerably influenced by local precipitation. Natural replenishment of ground water occurs easily when water has time to percolate into a storage zone. Unfortunately, most of the Basin is urban and much of its surface is paved with asphalt and concrete that channels the runoff before it can penetrate the ground and replenish the ground water supply.

Long-term precipitation trends appear in Figure 2, in which a downward slope indicates a continued dry period and an upward slope indicates an above normal increase in precipitation. The curve of cumulative departures from the mean shows the relative magnitude of the drought that began in 1944.

During the 1972-73 season, precipitation was about 125 percent of the long-time mean at valley stations and about 117 percent of the mean at mountain stations (Table 1). The above normal precipitation during the past season reversed the downward slope of the past three years.

Table 1. PRECIPITATION

Station Name	Type: Valley	Type: Mountain	Period of record in years	July through June, in inches: 1971-72	1972-73	50-year mean
Altadena Golf Course	X		76	5.38	27.79	23.11
Highland Park	X		78	7.77	23.34	18.52
La Canada	X		61	10.75	30.18	23.20*
Mt. Wilson Airways		X	39	12.86	49.01	36.40*
Oakwilde		X	46	8.43	24.59	28.19*
Opid's Camp		X	56	17.18	50.52	41.19*
Pasadena Chlorine Plant		X	57	10.25	29.13	23.40*
Sierra Madre	X	X	78	9.51	31.01	25.00
Switzer's Camp		X	46	10.78	33.18	27.72*
Upper Haine's Canyon		X	55	11.60	32.51	30.06*
Seasonal Average	X			8.35	28.08	22.44
		X		11.52	35.71	30.63

*Estimated

Table 2. CREDIT FOR WATER SPREAD BY CITY OF SIERRA MADRE

[illegible]	(1) Salvage water at beginning of year	Water spread (2) Ground	(3) Lost through natural percolation	(4) Water stored (2)-(3)-(4)	(5) Salvage water lost to subsurface outflow	(6) Salvage water extracted	(7) Salvage water at end of year (1)+(4)-(5)-(6)=(7)
1951-52		[illegible]	58.9	1,410.1	124.4	449.4	836.3
52-53	[illegible]	[illegible]	94.6	1[illegible]3.4	243.1	334.9	421.7
53-54	[illegible]	[illegible]	[illegible]	[illegible]79.4	114.4	59[illegible].1	285.6
54-55	[illegible]	341.6	22.5	319.5	15.1	559.1	30.9
55-56	3[illegible].9	429.[illegible]	90.9	338.1	9.[illegible]	128.0	231.4
56-57	[illegible]31.4	331.[illegible]	107.1	103.9	42.1	62.0	291.2
57-58	[illegible]01.	3,409.1	811.9	2,597.1	278.8	0.0	2,[illegible]09.5
58-59	2,[illegible]9.	1,3[illegible].0	521.0	787.0	945.1	37.5	2,413.9
59-60	2,413.9	[illegible]5.6	[illegible]1.4	34.6	705.6	268.2	1,534.7
1960-61	1,534.7	51.[illegible]	16.0	35.0	214.1	1,116.3	239.3
61-62	239.3	1,283.[illegible]	445.6	837.4	43.1	292.9	740.8
62-63	740.8	1,121.[illegible]	554.4	576.4	241.7	253.9	821.8
63-64	821.8	699.[illegible]	164.4	534.6	180.2	451.3	724.9
64-65	724.9	904.[illegible]	208.[illegible]	695.4	142.8	837.3	440.2
65-66	440.2	4,233.[illegible]	979.0	3,254.0	533.5	433.1	2,727.6
66-67	2,727.6	4,537.[illegible]	945.1	3,591.9	1,110.9	0.0	5,208.6
67-68	5,208.6	2,[illegible]25.0	1,669.2	1,555.8	1,663.1	0.0	5,101.3
68-69	5,101.3	2,984.0	371.9	2,612.1	1,532.3	0.0	6,181.1
69-70	6,181.1	1,529.3	932.2	597.1	1,495.5	0.0	5,282.7
1970-71	5,282.7	1,145.3	369.7	775.6	1,285.7	0.0	4,772.6
71-72	4,772.6	1,014.4	311.5	702.9	1,518.3	0.0	3,957.2
72-73	3,957.2	3,204.0	824.5	2,379.5	815.1	84.7	5,436.9
Totals		33,968.0	9,440.4	24,537.0	13,255.5	5,844.7	

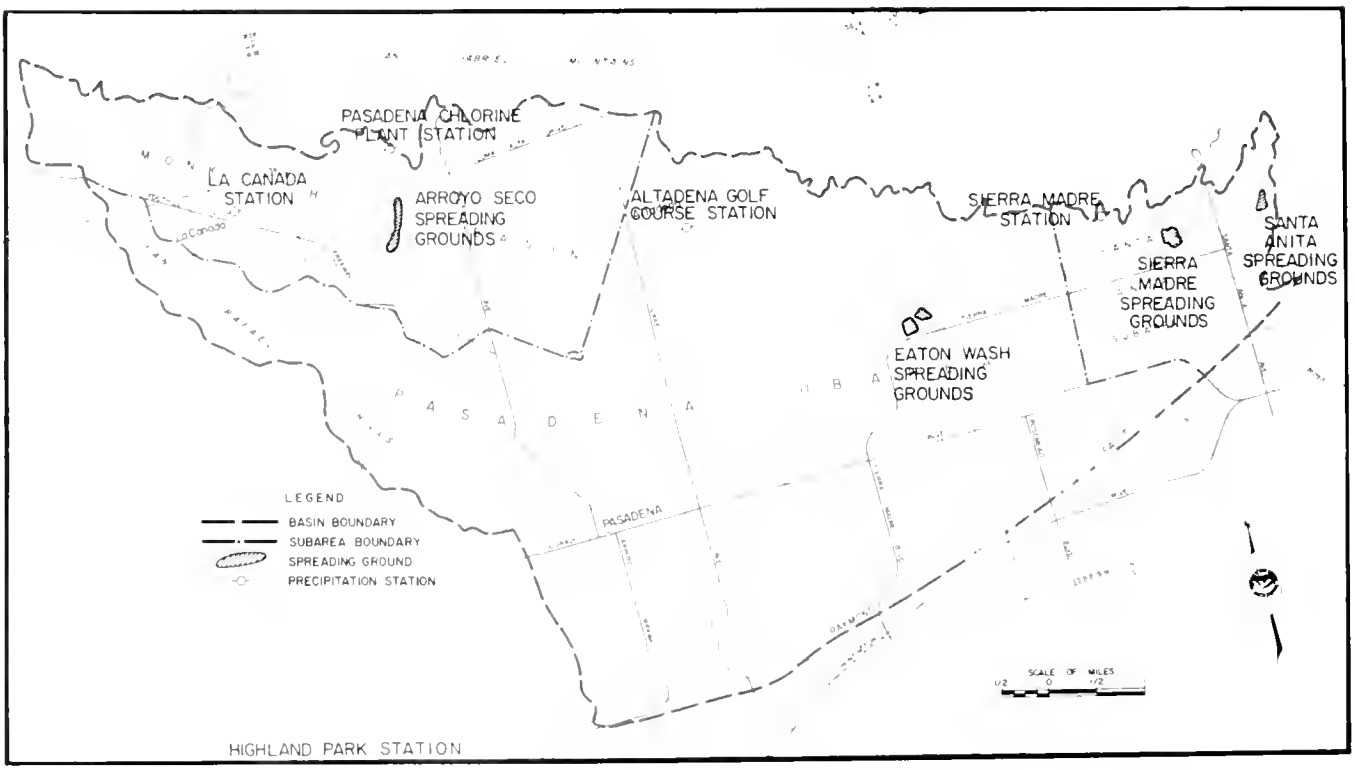


Figure 3. PRECIPITATION STATIONS AND SPREADING GROUNDS

Ground Water Recharge

Overdraft occurs when water is extracted from a ground water basin more rapidly than it is replaced naturally. Ground water aquifers usually recharge themselves so slowly that a few years of concentrated pumping may upset a balance that took centuries to establish. This is the situation that existed in the Raymond Basin several years ago.

Today, several methods of artificial recharge are being used to reestablish and maintain nature's balance. One of these is water spreading. Areas are flooded with water that will percolate into aquifers and supplement the natural supply. Large quantities of water can be returned to the ground by water spreading, but the process is limited by the space available for spreading and the capacity of the ground water basin to accept the water.

The Los Angeles County Flood Control District (LACFCD) operates three spreading grounds in the Raymond Basin--Arroyo Seco, Eaton Wash, and Santa Anita Grounds (figure 3). Another project, Sierra Madre Grounds, is operated by the City of Sierra Madre. Since the spread water is added directly to the Raymond Basin, water levels near the spreading grounds, especially the Eastern Unit and Monk Hill Basin, reflect the additions quickly. Water spreading thus benefits all parties in the Basin considerably. (Table 3.)

Salvage Credit for City of Sierra Madre

The City of Sierra Madre spreads local street runoff and water diverted from Santa Anita Creek and Sierra Madre Wash in its spreading grounds. Essentially, the City uses the Eastern Unit as a storage facility, a privilege obtained several years ago through an agreement with Arcadia. The Watermaster determines the total quantity of water spread in the Sierra Madre Grounds and credits the City with the portion of the spreading that is not part of the natural replenishment of the Eastern Unit. This water is called "salvage credit" water. It may not be pumped by the City until both its exchange water purchase, if any, and decreed right are fully used. Salvage credit remaining at the end of each season since 1951 is summarized in Table 2. The City pumped 84.65 acre-feet of its salvage credit water during the past season and lost 815.15 acre-feet of the stored water through subsurface outflow.

Table 3. WATER SPREAD FOR GROUND WATER RECHARGE

Participant	Spreading Ground	Source	Acre-feet
LACFCD	Arroyo Seco	Arroyo Seco	1,215.00 [a/]
	Eaton Wash	Eaton Canyon	1,689.00 [b/]
	Santa Anita	Santa Anita Canyon	726.00
Kinneloa Irrigation District [c/]	Eaton Wash [d/]	Kinneloa Canyon	0.34
Las Flores Water Company [c/]	Rubio Canyon Debris Basin [d/]	Las Flores Canyon	0.00
Lincoln Avenue Water Company [c/]	Arroyo Seco [d/]	Millard & El Prieto Canyons	24.70
Pasadena, City of [c/]	Arroyo Seco [d/]	Arroyo Seco	0.00
	Eaton Wash [d/]	Eaton Canyon	199.79
Rubio Canon Land & Water Assoc. [c/]	Rubio Canyon Debris Basin [d/]	Rubio Canyon	13.34
Sierra Madre, City of	Sierra Madre	Santa Anita Canyon, Little Santa Anita Canyon, and Street Runoff	3,204.00
		TOTAL	7,072.17

a/ Does not include 2,552 acre-feet percolation at Devil's Gate Dam.
b/ Does not include 1,327 acre-feet percolation at Eaton Wash Reservoir.
c/ Pursuant to proposed program for spreading credit.
d/ Major part of percolation occurs in the streambed.

Proposed Program for Spreading Credit

Parties having surface diversion rights were allowed by the Watermaster, subject to Court approval, to spread their diversions for future recapture by pumping, beginning May 1, 1973. Those electing to participate in this program are:

Kinneloa Irrigation District
Las Flores Water Company
Lincoln Avenue Water Company
City of Pasadena
Rubio Canon Land and Water Assoc.

The inception of the program and its implementation are discussed in Chapter IV.

Runoff

Thirteen stream gaging stations are used to determine the volume of surface water moving through the Raymond Basin. The Watermaster operates nine, and the Los Angeles County Flood Control District operates the remaining four. The location of each station is shown in Figure 4. Appendix A summarizes the information collected at gaging stations operated by the Watermaster. Appendix A also contains corrected tables for the 1971-72 year showing the Mean Daily Discharge instead of the average daily staff gauge height incorrectly shown in Bulletin 178-72. The seasonal summary of "measured" flow at each gaging station appears in Table 4.

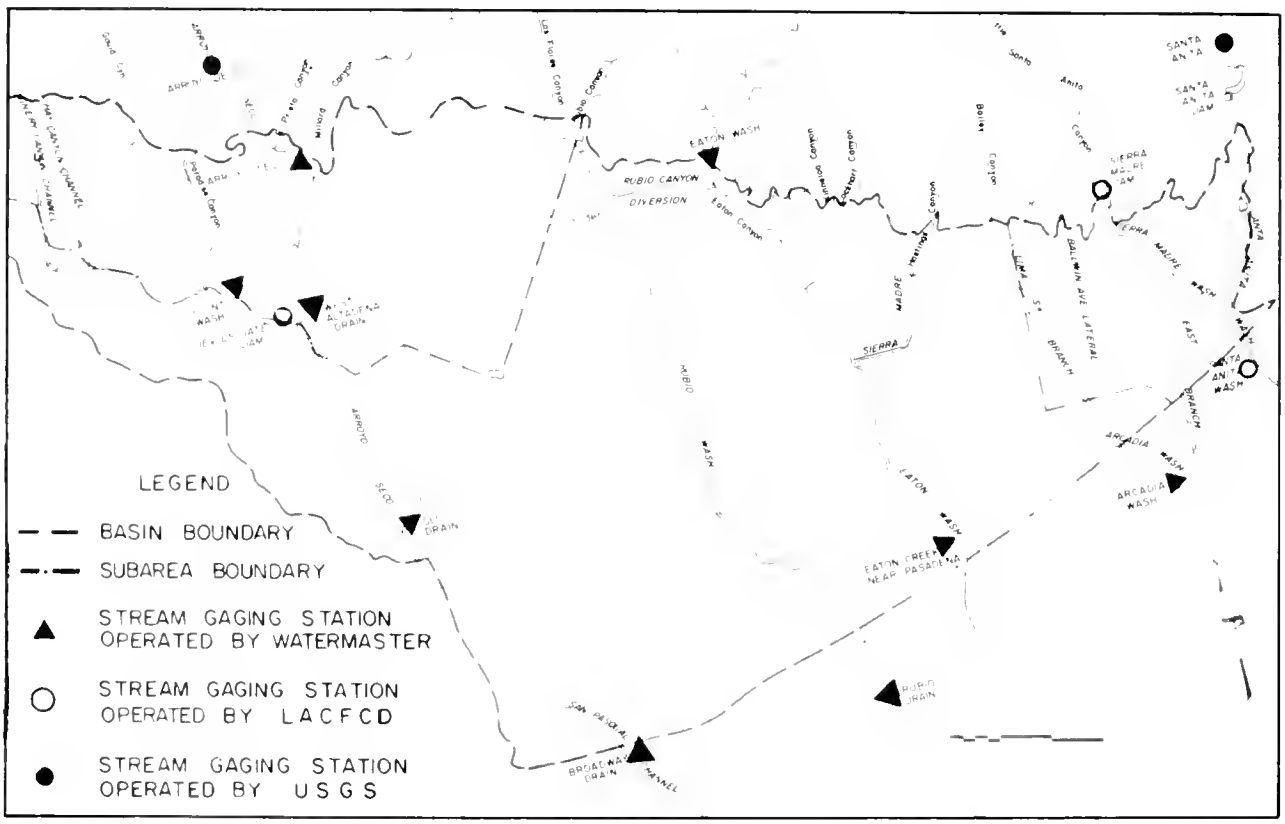


Figure 4. STREAM GAGING STATIONS

Table 4. RAYMOND BASIN RUNOFF

Watermaster Stream Gaging Stations No.	Name	Flow in acre-feet	
Monk Hill Basin Flow into Devil's Gate Reservoir			
62190	Flint Wash	2,575	
62985	West Altadena Drain	509	
	TOTAL INTERNAL FLOW		3,084
Inflow to Raymond Basin			
62250	Arroyo Seco[a]	8,302	
	City of Pasadena diversions	2,259	
	Subtotal		10,561
75360	Eaton Wash[a]		1,937[b]
[c]	Sierra Madre Dam[a]		884
[c]	Santa Anita Dam[a]		2,829
	TOTAL INFLOW		16,211
Outflow from Raymond Basin			
[c]	Devil's Gate Dam		6,094[d]
62150	Seco Drain		1,377
75135	Broadway Drain		1,600
75220	Rubio Drain		6,847
75300	Eaton Creek near Pasadena		3,852
75450	Arcadia Wash		1,583
[c]	Santa Anita Wash		2,556
	TOTAL OUTFLOW		23,909

a/ Includes water diverted to spreading ground within the basin.
b/ City of Pasadena claimed 199.79 acre-feet for spreading credit.
c/ Operated by Los Angeles County Flood Control District.
d/ Corresponding figure shown on 1971-72 report as 763 was in error; should be 0 acre-feet.

Ground Water Elevations

During the past season, the Watermaster collected and processed data to determine prevailing ground water conditions in the Raymond Basin. Results of this study appear on Figures 5, 6, and 7.

Figure 5 shows the elevations of the ground water table that existed during the fall of 1972. Figure 6 represents the water table that existed in the spring of 1973 at the end of the rainy season and shows the conditions resulting from the wet winter. Figure 7 shows the changes in elevation that occurred in the water table between the 1971 and 1972 fall seasons. Any significant change is easily detected.

Hydrographs depicting historical ground water table fluctuations in selected wells in the Raymond Basin are shown on Figures 8, 9, and 10. The sites of these wells appear on Figure 12. Many more hydrographs are available for inspection at the Watermaster's Office.

The hydrograph of the City of Arcadia's Orange Grove No. 4 well (Figure 10) is one of the Arcadia group of wells whose performance governs the limitation of pumping in the Eastern Unit of the Raymond Basin. The limitation is imposed if the water surface at the Arcadia group of wells drops below an elevation of 500 feet above sea level. The limitation reduces the annual extraction from the Eastern Unit during the following season from 5,290 acre-feet to 3,261 acre-feet. Because the water surface was above the 500-foot limit during spring 1973, the limitation of pumping will not be in effect during the 1973-74 season.

From the hydrographs it can be seen that the above average 1972-73 rains which resulted in a considerable increase in water spreading, brought about only a small increase in water levels throughout Eastern Unit and Monk Hill Basin.

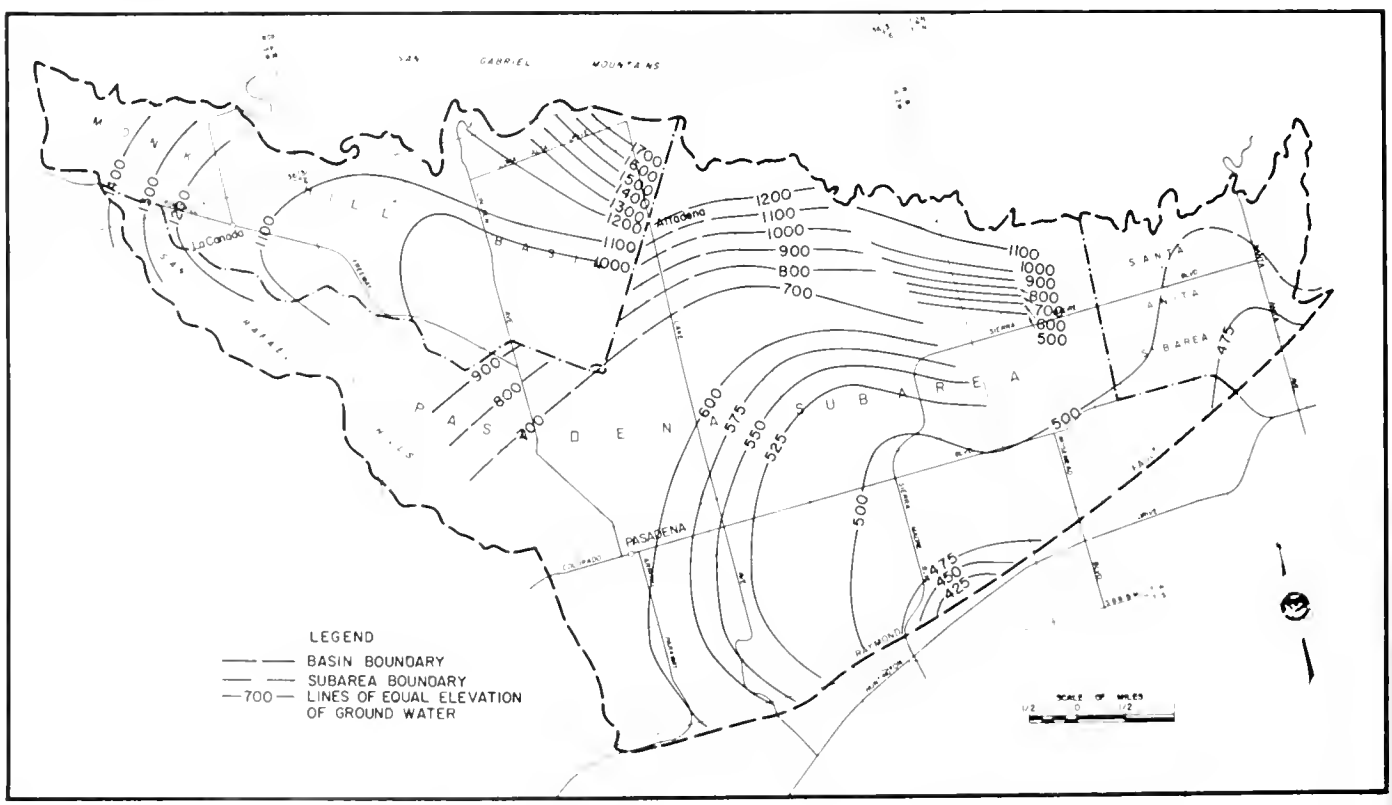


Figure 5. LINES OF EQUAL ELEVATION OF GROUND WATER, FALL 1972

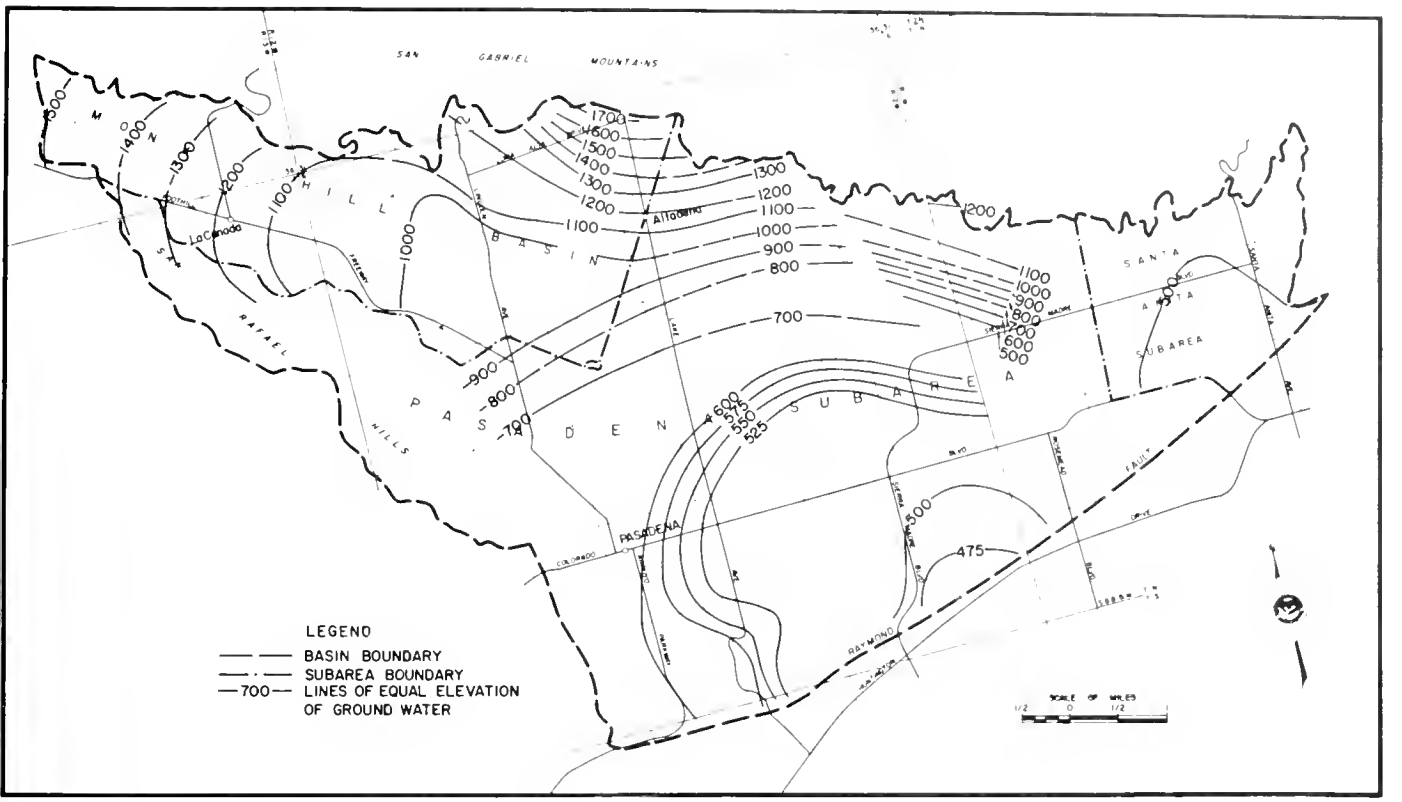


Figure 6. **LINES OF EQUAL ELEVATION OF GROUND WATER, SPRING 1973**

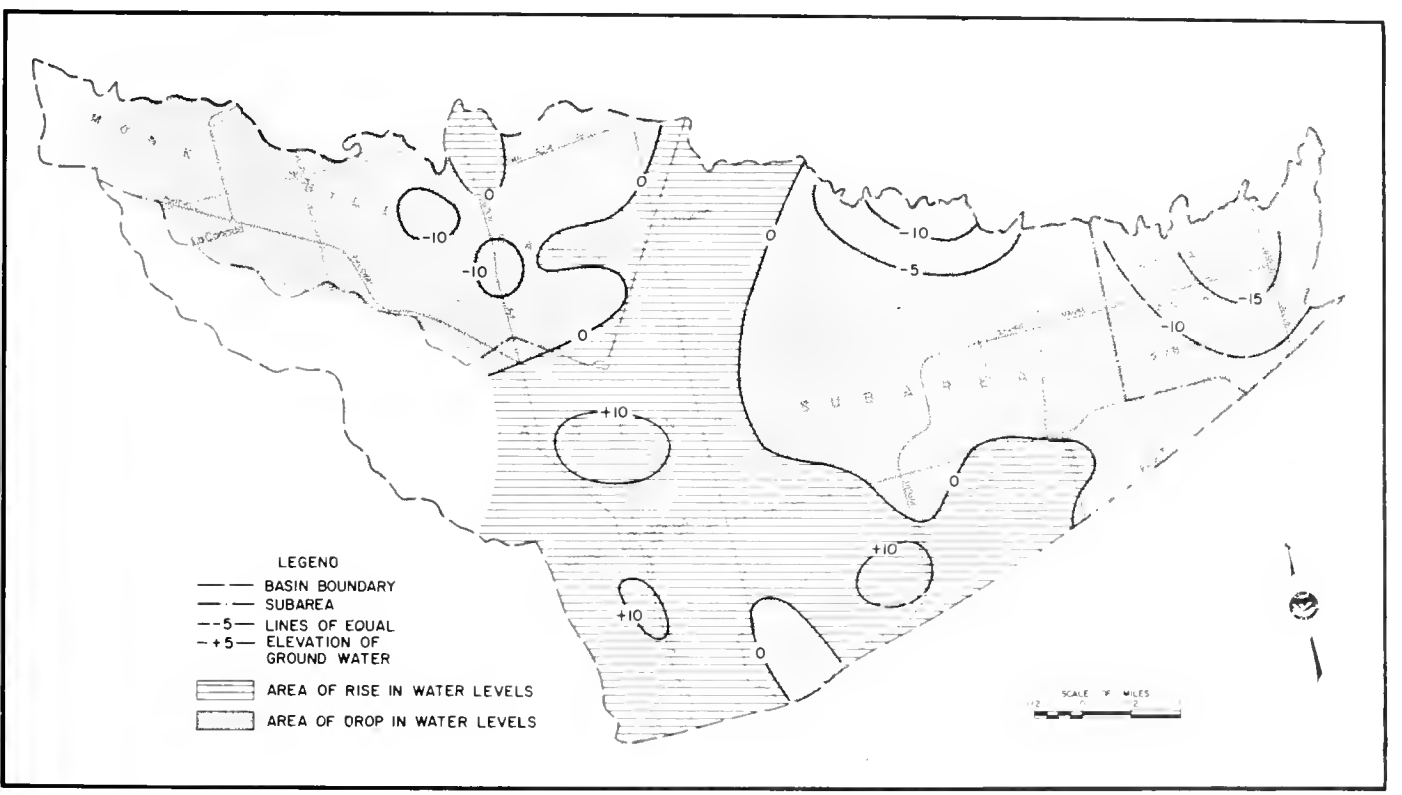


Figure 7. **LINES OF EQUAL CHANGE OF GROUND WATER ELEVATION, FALL 1971 TO FALL 1972**

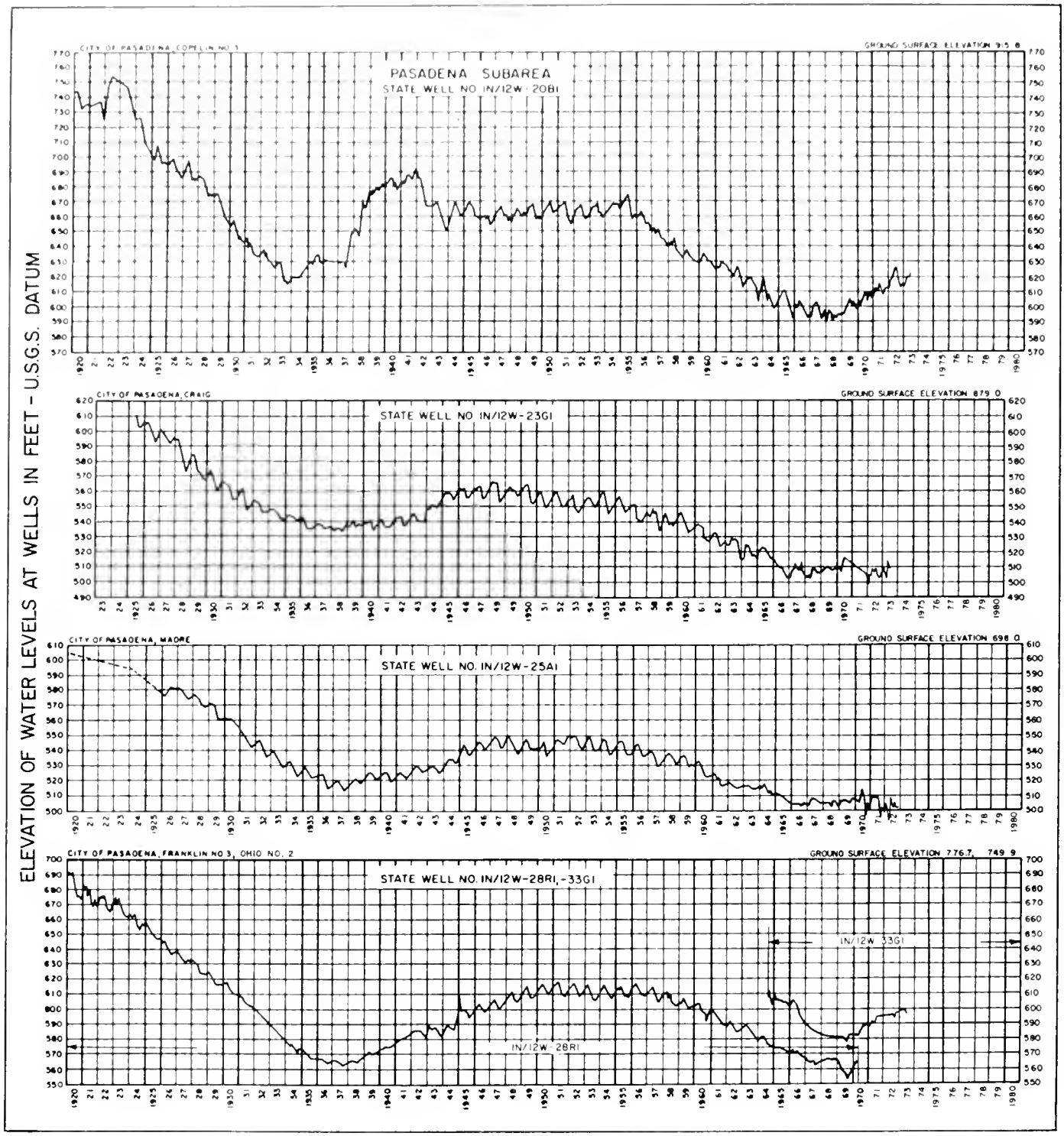


Figure 8. **FLUCTUATION OF WATER LEVELS AT WELLS IN THE PASADENA SUBAREA**

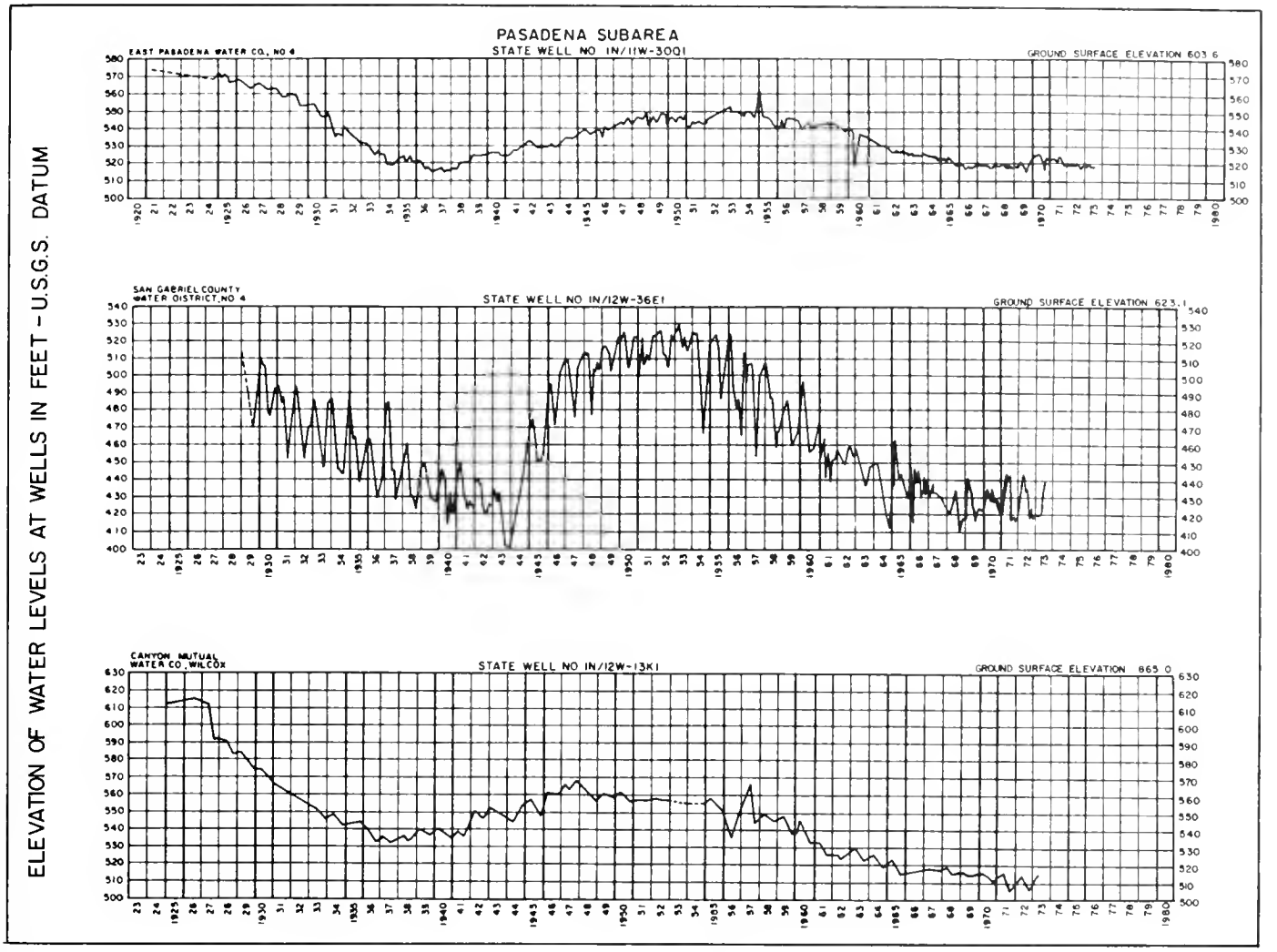


Figure 8. (continued)

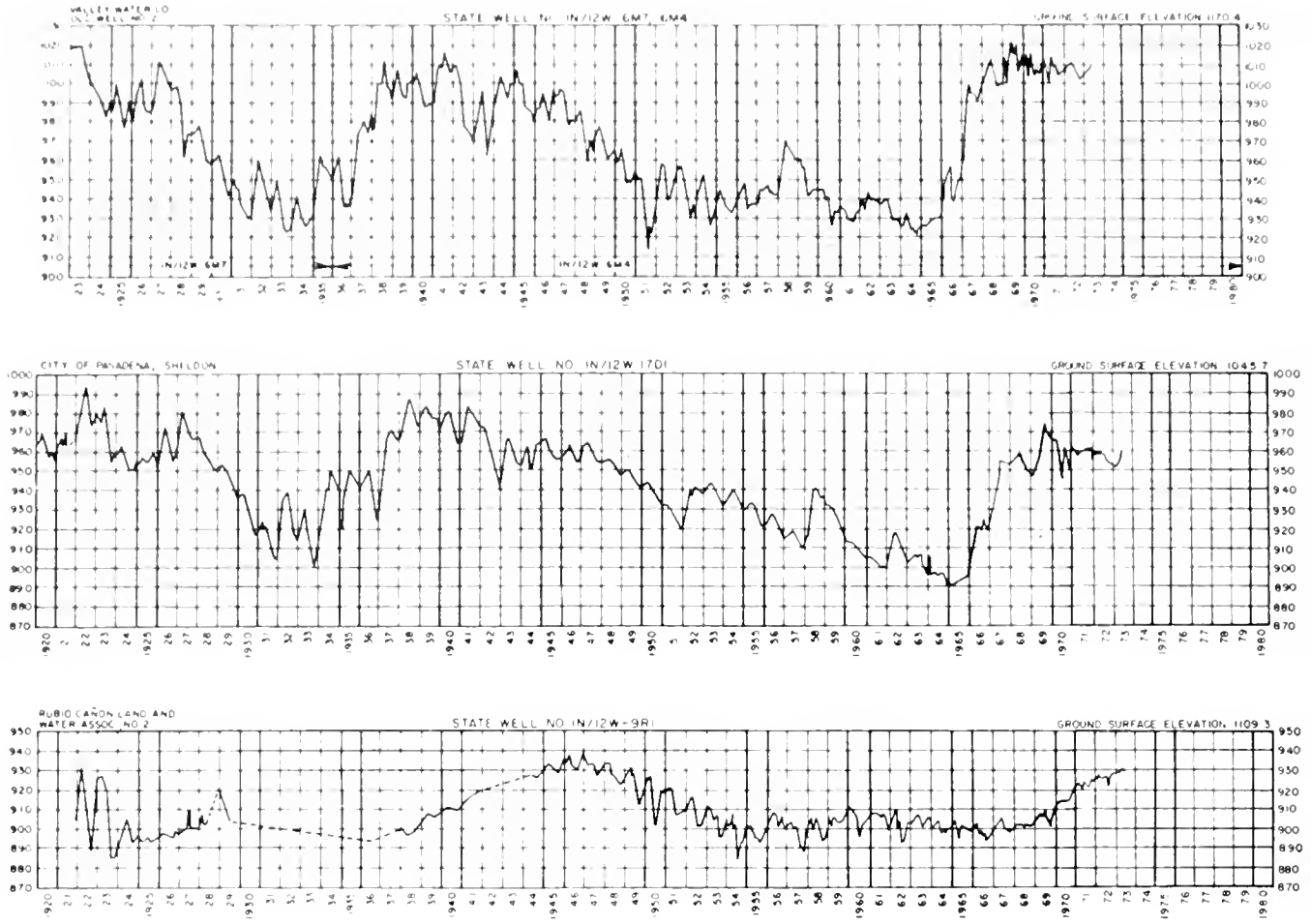


Figure 9 - FLUCTUATION OF WATER LEVELS AT WELLS IN THE MONK HILL BASIN

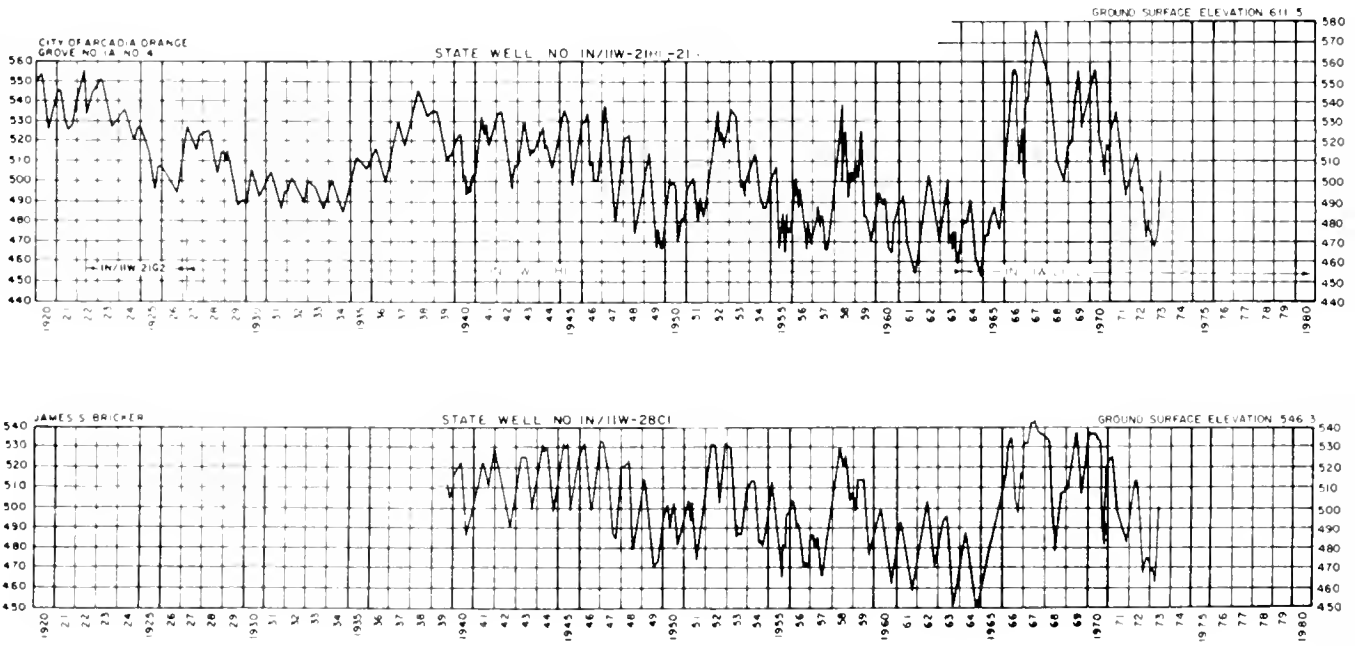


Figure 10 FLUCTUATION OF WATER LEVELS AT WELLS IN THE SANTA ANITA SUBAREA

Water Well Numbering in the Raymond Basin

In the 1972-73 season, the Raymond Basin contained 127 existing wells, 66 of which were active. One new well was drilled and six existing wells were destroyed.(See App. C. & Fig. 12.)

Each water well in the Raymond Basin can be found by its state well number. A state well numbering system based on the U.S. Public Land Survey was adopted a number of years ago. Each well number consists of township, range, and section number; a letter to identify the 40-acre tract in which the well is located; a sequence number to show the chronological order in which the well was identified; and a letter to represent the base and meridian. The letter "S" is sometimes omitted because all wells in the Raymond Basin are situated in relation to the San Bernardino base and meridian. The parts of state well number 1N/12W-25Q01S are illustrated in the following breakdown:

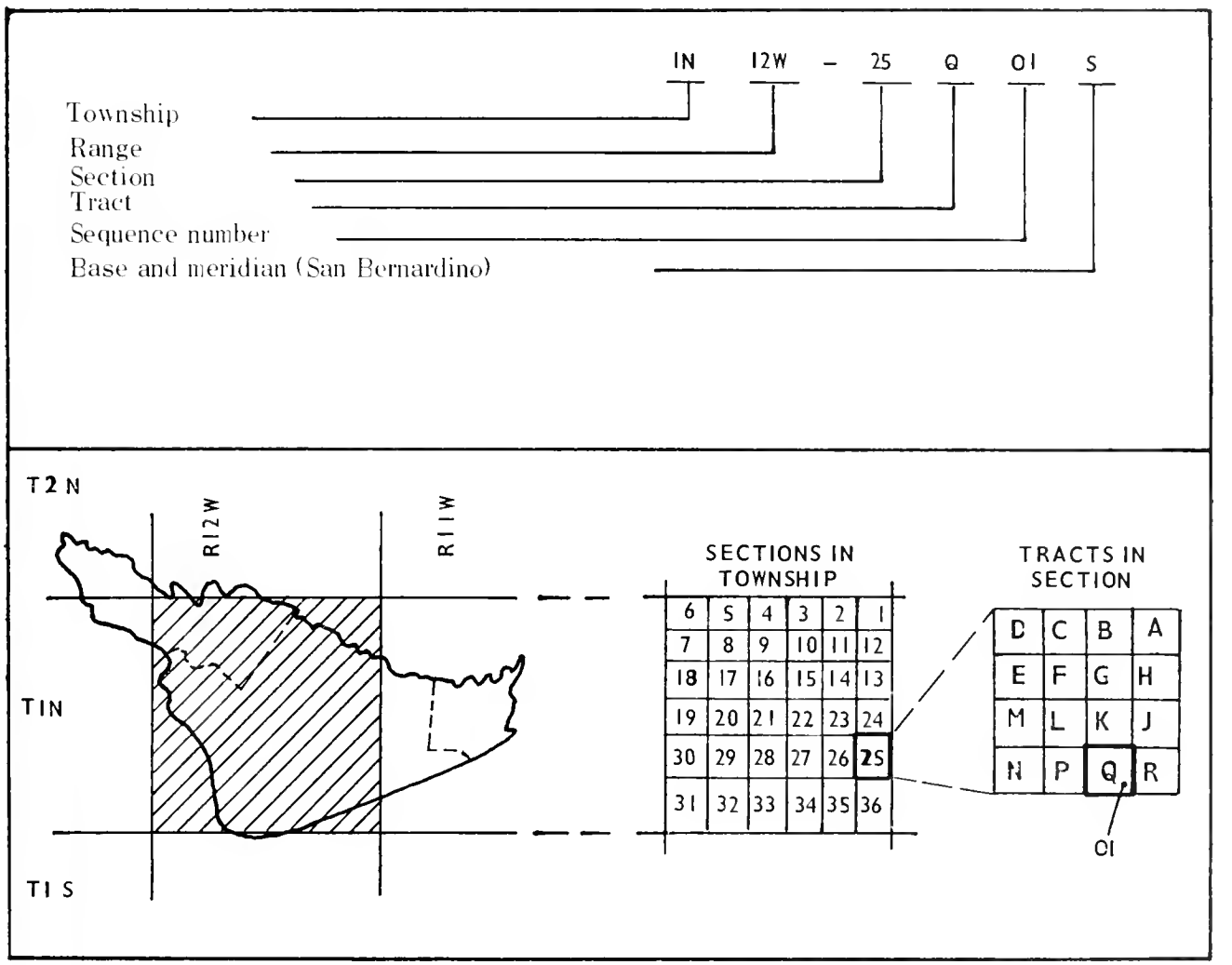


Figure 11. LOCATING STATE WELL NO. 1N/12W-25Q01S

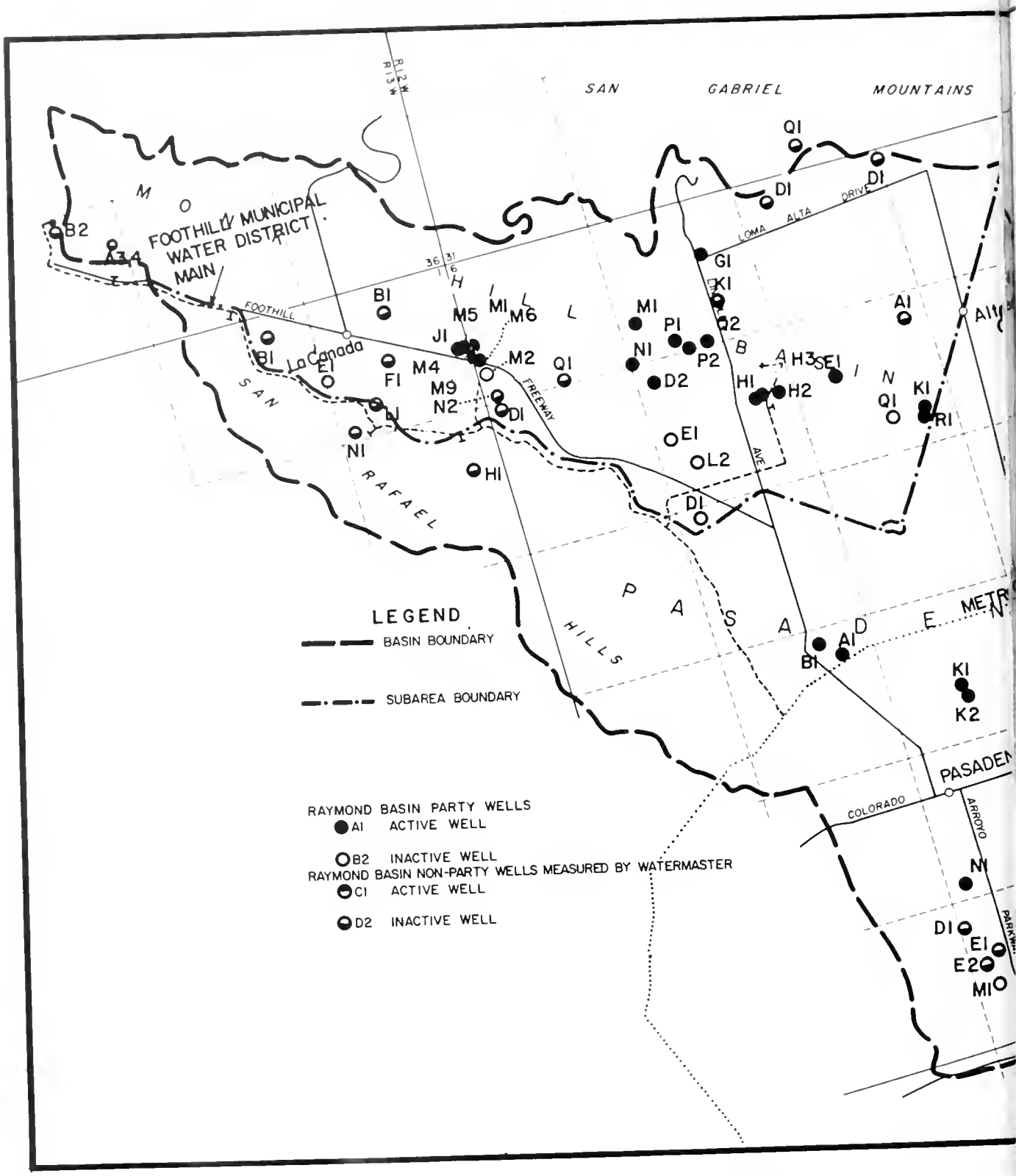
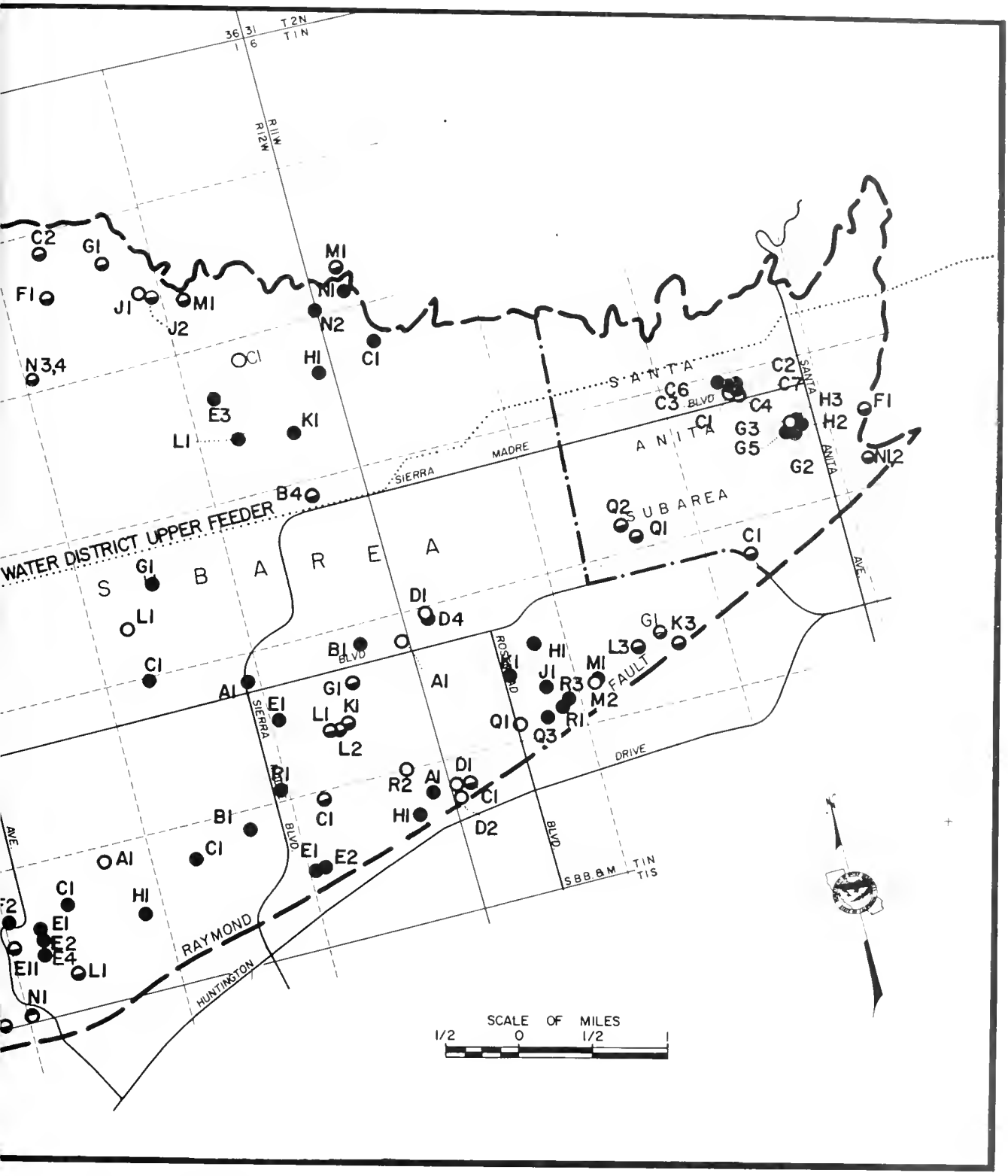

SAN GABRIEL MOUNTAINS
FOOTHILL MUNICIPAL WATER DISTRICT MAIN
LOMA ALTA DRIVE
FOOTHILL
La Canada
FREEWAY
SAN RAFAEL HILLS
PASADENA
COLORADO
ARROYO
LEGEND
BASIN BOUNDARY
SUBAREA BOUNDARY
RAYMOND BASIN PARTY WELLS
A1 ACTIVE WELL
B2 INACTIVE WELL
RAYMOND BASIN NON-PARTY WELLS MEASURED BY WATERMASTER
C1 ACTIVE WELL
D2 INACTIVE WELL

FIGURE 12 –



WELL LOCATIONS

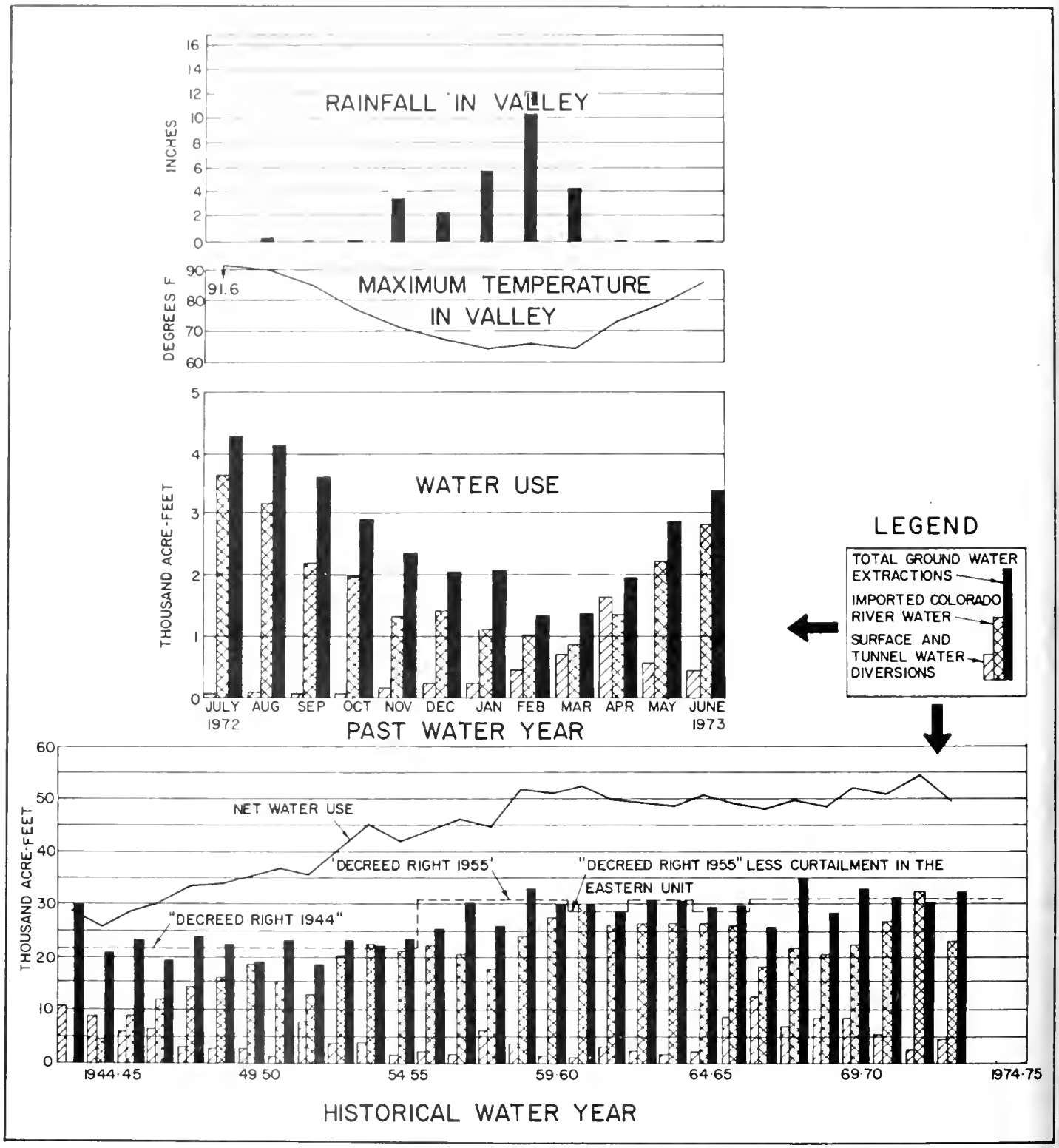


Figure 13. **CLIMATIC CONDITIONS AND WATER USE**

III. WATER USE

Net water use is the sum of ground water extractions, salvage water extractions (City of Sierra Madre), surface water diversions tributary to the Raymond Basin, and water imported to the basin, minus the exports from the basin. Water which is diverted for spreading is not included in the net water use computations (Table 5).

Rapid population growth between 1944 and 1958 caused a substantial increase in net water use by parties. Despite greater numbers of people, use of local ground water supplies has been held to the decreed rights since 1944. Population growth has leveled off since 1959.

Most of the increased water requirement has been met by Colorado River water imports. Historical water use and the correlation between current climatic conditions and monthly water use are presented on Figure 13. Rainfall values are based on valley station records (Table 1), and temperature values are based on the average temperatures at the Cities of Pasadena and Sierra Madre.

The bar graphs on Figure 13 are striking proof that climate is one of the most important phenomena that regulate water use. For example, as rainfall increases and temperatures fall, water use declines.

Ground Water Extractions

The Raymond Basin Judgment limits the amount of ground water that each party can extract annually from the basin or can release to the Water Exchange Pool for pumping by other parties. Recipients of exchange water may pump the amount released to them in addition to their "Decreed Right 1955."

The metered ground water production from each active well in the basin is listed by party in Appendix B, which shows the total ground water production reported by each party.

The gross water supply includes all sources of water necessary to supply each party's total water requirement. A report on the gross water supply of all parties appears in Table 6. Several parties that extracted ground water from the basin adjacent to the Raymond Basin are also shown in Table 6.

Surface Water Diversion

The Judgment allows certain parties to divert surface water tributary to the Raymond Basin. Parties also divert and import nontributary surface water. Two types of diversions are used: surface and tunnel. Surface diversions collect surface water, such as streams or springs. Tunnel diversions collect subsurface water in either horizontal or vertical galleries. The water is diverted to a reservoir, treatment plant, service facility, or spreading grounds (see Table 6).

Use of Imported Water

Colorado River water was first available in June 1941 to the City of Pasadena. However, the city did not begin to use this water continuously until June 1945. The amount of Colorado River water imported last season by each party connected with the Foothill Municipal Water District and by the City of Pasadena is shown in Table 6.

Ground Water Exports

The Watermaster assumes that parties with service areas both inside and outside the basin export ground water only if their water sales in the basin are less than the sum of water pumped, diverted, and purchased in the basin. Since the City of Pasadena's supply of water comes from several sources, its total export contains Colorado River water, diverted surface water, and ground water. (See Table 6)

Table 5. SUMMARY OF WATER USE IN 1972-73 WATERMASTER YEAR

Party	(1) Decreed Right 1955	(2) Total amount pumped 1972-73	Excluding carryover from 1971-72 (3) Balance on June 30, 1973 (1)-(2) (3)	Excluding carryover from 1971-72 (4) Overextraction in percent of "Decreed Right 1955" (3)÷(1) x 100=(4)	(5) Carryover from 1971-72	Including carryover from 1971-72 (6) Balance on June 30, 1973 (1)-(2)+(5)=(6)	Including carryover from 1971-72 (7) Overextraction in percent of "Decreed Right 1955" (6)÷(1) x 100=(7)
WESTERN UNIT							
Monk Hill Basin							
La Canada Irrigation District	10[illegible]	[illegible]3.69	3[illegible].31		251.42	287.73	
Las Flores Water Company	249.[illegible]	25[illegible].22	- [illegible].22	2.89	- 1.4[illegible]	- 8.68	3.48
Lincoln Avenue Water Company	[illegible]7.[illegible]	72[illegible].46	- 159.45	28.12	- 183.69	- 343.14	60.51
Pasadena Cemetery Association	91.[illegible]	74.72	1[illegible].28		18.80	35.08	
Pasadena, City of	4,[illegible]64.[illegible]	[illegible],071.15	- 1,607.15	3[illegible].00	1,593.30	- 13.85	0.31
Rubio Canon Land and Water Association	1,221.[illegible]	1,243.94	- 22.94	1.87	33.83	10.89	
Valley Water Company	797.[illegible]	781.27	15.73		139.20	154.93	
Subtotals	7,489.[illegible]	9,217.44	- 1,728.44	23.07	1,851.40	122.9[illegible]	
Pasadena Subarea							
Alhambra, City of	1,031.00	1,031.63	- 0.63	0.0[illegible]	1,302.98	1,302.35	
Arcadia, City of	1,1[illegible]7.00	1,092.19	74.81		- 63.53	11.28	
California-American Water Company	2,299.00	1,973.73	325.27		- 241.53	83.74	
Canyon Mutual Water Company	17.00[a]	17.76	- 0.76	0.04	778.00	777.24	
East Pasadena Water Company	515.00	373.62	141.38		725.37	866.75	
Henry E. Huntington Library and Art Gallery	2[illegible]2.00	338.20	- 76.20	29.08	107.25	31.05	
Kinneloa Irrigation District	5[illegible].00[b]	146.54	- 90.54	161.[illegible]8	1,532.52	1,441.98	
Mira Loma Mutual Water Company	148.00	68.05	79.95		536.84	616.79	
Monrovia, City of	951.00	1,020.88	- 69.88	7.34	57.74	- 12.14	1.27
Osborn Company	12.00	22.20	- 10.20	85.00	381.16	370.96	
Pasadena, City of	8,581.00[c]	8,425.92	155.08		- 1,587.61	- 1,432.53	16.69
Royal Laundry and Dry Cleaning Company	155.00[d]	160.63	- 5.63	3.63	- 13.85	- 19.48	12.56
San Gabriel County Water District	1,091.00	1,096.33	- 5.33	0.48	1.35	- 3.98	0.36
Sunny Slope Water Company	1,558.00	1,563.34	- 5.34	0.34	470.59	465.25	
Subtotals	17,843.00	17,331.02	511.98		3,987.28	4,499.26	
TOTALS - WESTERN UNIT	25,332.00	26,548.46	- 1,216.46	4.80	5,838.68	4,622.22	
Recapitulation for City of Pasadena (WESTERN UNIT)	12,807.00	14,497.07	- 1,690.07	13.19	5.69	- 1,684.38	13.15
EASTERN UNIT							
Santa Anita Subarea							
Arcadia, City of	3,526.00	3,964.92[e]	- 438.92	12.44	- 38.48	- 477.40	13.53
Sierra Madre, City of	1,764.00	1,836.32[e]	- 72.32	4.10	72.32	0.00	
TOTALS - EASTERN UNIT	5,290.00	5,801.24	- 511.24	9.66	33.84	- 477.40	9.02
GRAND TOTALS	30,622.00	32,349.70	- 1,727.70	5.64	5,872.52	4,144.82	

a/ Decreed Right (127 acre-feet) less 110 acre-feet leased to City of Pasadena. See Appendix D.
b/ Decreed Right (229 acre-feet) less 45 acre-feet released to Exchange Pool and 128 acre-feet leased to City of Pasadena. See Appendix D.
c/ Decreed Right (8,343 acre-feet) plus 110 and 128 acre-feet leased from Canyon Mutual Water Company and Kinneloa Irrigation District, see Appendix D.
d/ Decreed Right (110 acre-feet) plus 45 acre-feet received from Exchange Pool
e/ Value equal to total water pumped (1,920.97 acre-feet) minus credit for salvaged water pumped (84.65 acre-feet) which is not part of the safe yield.

Table 6. GROSS WATER SUPPLY
In acre-feet

Party	Total ground water extractions		Total surface water diversions		Total water		Net water use within the basin
	Inside basin	Outside basin[a]	Tributary to Raymond Basin[b]	Nontributary to Raymond Basin[a]	Imported[c]	Exported	
Alhambra, City of	1,031.63	(10,066.29)				- 1,031.63	0.00
Arcadia, City of	5,057.11	(8,640.17)				- 1,273.80	3,783.31
California-American Water Company	1,973.73	(4,688.59)			169.00[d]		2,142.73
Canyon Mutual Water Company	17.76						17.76
East Pasadena Water Company	373.62	(1,563.35)			26.92[d]		400.54
Henry E. Huntington Library and Art Gallery	338.20						338.20
Kinneloa Irrigation District	146.54		216.98				363.52
La Canada Irrigation District	63.69			(145.75)	1,876.00		1,939.69
Las Flores Water Company	256.22		75.01		517.90		849.13
Lincoln Avenue Water Company	726.45		1,346.26		1,026.61		3,099.32
Mira Loma Mutual Water Company	68.05		88.50				156.55
Monrovia, City of	1,020.88	(6,391.42)		(101.02)		- 1,020.88	0.00
Osborn Company	22.20						22.20
Pasadena Cemetery Association	74.72						74.72
Pasadena, City of	14,497.07		2,258.95		16,499.34	- 4,630.97	28,624.39
Royal Laundry and Dry Cleaning Company	160.63						160.63
Rubio Canon Land and Water Association	1,243.94		187.17		849.87		2,280.98
San Gabriel County Water District	1,096.33	(5,360.26)				- 1,096.33	0.00
Sierra Madre, City of	1,920.97[e]		499.68[f]				2,420.65
Sunny Slope Water Company	1,563.34	(2,634.65)				- 1,450.62	112.72
Valley Water Company	781.27				2,061.51		2,842.78
TOTALS	32,434.35		4,672.55		23,027.15	-10,504.23	49,629.82

a/ Used by parties in areas outside the Raymond Basin
b/ Does not include surface diversions for spreading as follows: Kinneloa Irrigation District - 0.34 acre-feet; Lincoln Avenue Water Company - 24.70 acre-feet; City of Pasadena (Eaton Canyon)- 199.79 acre-feet; Rubio Canyon Land and Water Association - 13.34 acre-feet.
c/ Colorado River water except as noted.
d/ Ground water from outside basin.
e/ Includes 84.65 acre-feet of salvage water credit that was extracted.
f/ Does not include 3,204.00 acre-feet diverted for spreading to recharge the ground water.

Nonparty Ground Water Extraction

The Watermaster continues to monitor nonparty ground water extractions. Two nonparty pumpers in the Western Unit continue to extract ground water:

Huntington-Sheraton Hotel
State Well No. 1N/12W-34N1

14.74 acre-feet

Las Encinas Hospital
State Well No. 1N/12W-25K1
State Well No. 1N/12W-25L2

84.52 acre-feet

The hotel extractions were estimated by the plant engineer. The hospital based its water use on water meter readings.

Exports of Sewage

In the 1967-68 season, to measure sewage outflow, the Watermaster selected key stations on large sewage trunk lines leaving the basin across the Raymond Fault and was granted temporary permission to install recorders at each. Next season, the Watermaster installed F-type water stage recorders in 12 trunk lines for one week. See Figure 14 for locations.

During the past water year F-type water stage recorders were again installed in the trunk lines for one week during the month of June.

The sewage outflow appears to be increasing yearly. The records show two previous estimates as: 1938-39--5,900 acre-feet; 1951-52--9,500 acre-feet, and the computed outflow for the 1968-69 and 1970-71 seasons as 20,000 and 21,000 acre-feet, respectively. The past year's computed outflow is 21,552 acre-feet.

Flow at Key Stations

Map Code	Station	Acre-Feet
1.	Grand Avenue	2,744
2.	Garfield Avenue	1,192
3.	Los Robles Avenue	2,064
4.	Old Mill Road	77
5.	Virginia Road	1,618
6.	San Marino Avenue	3,654
7.	Sierra Madre Blvd.	212
8.	N. Gainsborough St.	4,450
9.	Sunset Blvd.	3,875
10.	Old Ranch Road	214
11.	Colorado Place	596
12.	Colorado Blvd. at First Street	1,156
	Total	21,552

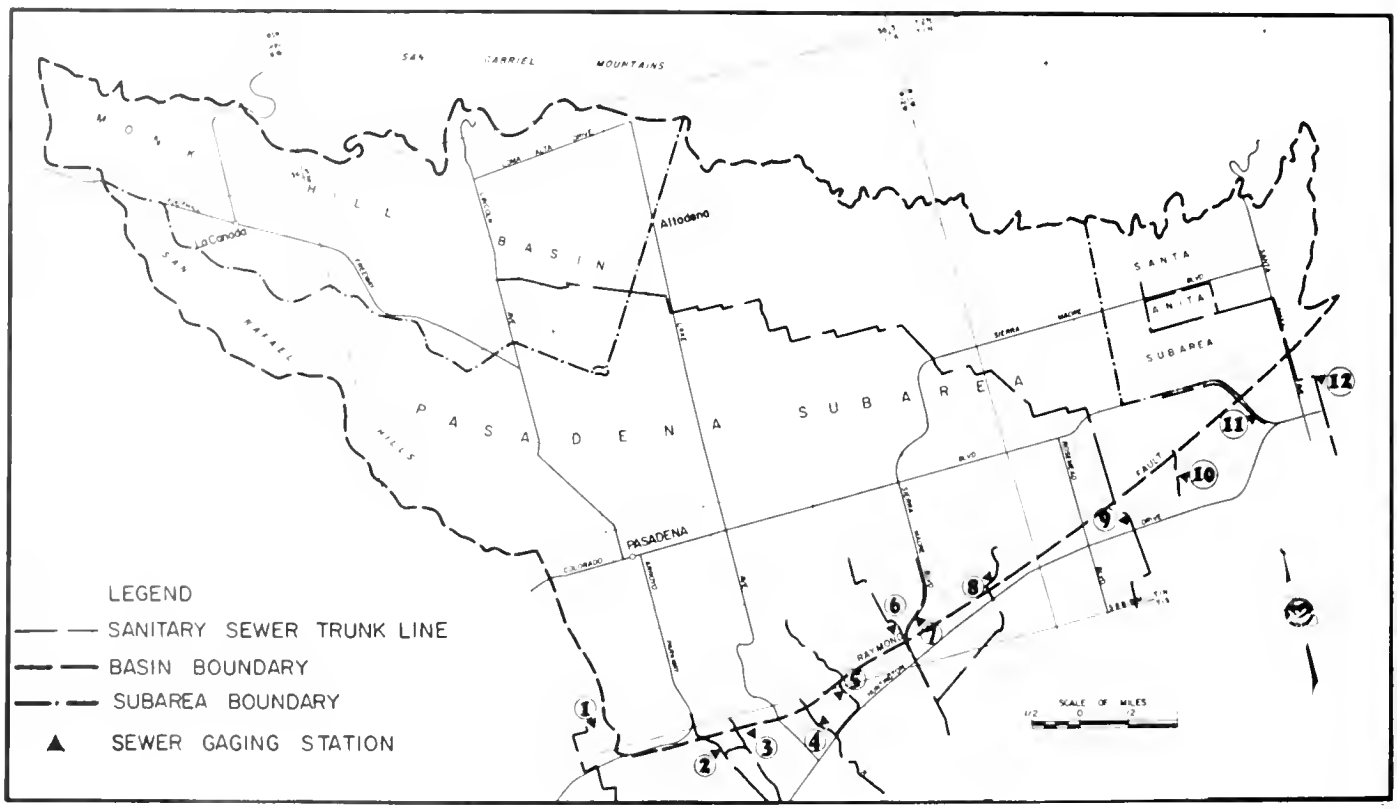


Figure 14. **SEWAGE GAGING STATIONS**

IV. ADMINISTRATION OF THE JUDGMENT

The Raymond Basin Advisory Board created by the Los Angeles County Superior Court assists and advises the Watermaster on matters of policy and budget preparation. The members are:

K. A. Johnson, Chairman, City of Pasadena
L. W. Jubb, Secretary, Monk Hill Basin
L. Magoffin, Pasadena Subarea
J. A. Grivich, Santa Anita Subarea
B. Westkamper, Santa Anita Subarea

Messrs. Grivich and Westkamper alternate annually; Mr. Grivich serves in odd-numbered years and Mr. Westkamper serves in even-numbered years.

To manage the Basin effectively, the Board initiated a cooperative water resources management study during fiscal year 1967-68. Begun under an agreement signed March 21, 1968, by the Department of Water Resources and the City of Pasadena for all parties, the program has as its objective the design of a mathematical model of the Basin to simulate the dynamic behavior of a ground water basin and surface water facilities under various operations plans. The Basin was divided into 79 subzones so that the ground water level information gained would be sufficiently detailed for long-range planning.

Before projections could be made, the model's accuracy had to be verified against historic hydraulic data. Numerous alternative plans for using ground and surface water together were then imposed on the model. With the data thus obtained, a wide range of operational and economic information is being developed for management planning. The analysis was completed during the 1970-71 fiscal year and the findings of the investigation were published as Bulletin No. 104-6, dated June 1971. The model was used for the special study "Spreading Surface Water in the Raymond Basin Area".

Metered Surface Diversions for Spreading

The special study "Spreading Surface Water in the Raymond Basin Area", was completed by the Department of Water Resources in January 1973. The Advisory Board subsequently accepted the recommendations of the study and a program of spreading and recapturing surface water diversions was initiated and approved to begin May 1, 1973.

A "Motion to Modify Judgment to Allow Spreading and Recapturing by Pumping of Certain Surface Water Diversions" has been prepared and is currently in the signing stage. It is anticipated that the motion will be presented to the Court for a hearing on or about September 1, 1973. The motion includes a clause which would allow the program to become effective retroactive to May 1, 1973.

Kinneloa Irrigation District and the City of Pasadena began their metered diversions for spreading on May 1, 1973, and on June 1, 1973, Lincoln Avenue Water Company and Rubio Canon Land and Water Association began their operations. Each of the surface diversion facilities and metering devices have been inspected and approved by the Watermaster.

The Watermaster will determine the amount of water diverted for spreading and the Los Angeles County Flood Control District will certify the amount spread. See Table 3 and Appendix D for amounts diverted and approved during 1972-73. Parties will be allowed to extract 80% of the amount spread and certified as soon as the Court approves the modification of Judgment.

Exchange Pool

The Exchange Water Agreement, authorized by the Court, permits the exchange and use of water rights among all parties of the agreement. Participation in the Exchange Agreement is open to all parties to the agreement.

The Exchange Agreement was useful during the early years subsequent to the Court's Judgment when only Pasadena had access to Colorado River water. However, at present six parties use Colorado River water and fewer water rights need be exchanged. The history of Exchange Pool transactions appears in Table 7.

Table 7. EXCHANGE WATER POOL TRANSACTIONS

Season	Quantity of water purchased, in acre-feet				Average cost, per acre-foot	
	Western Unit		Eastern Unit	Raymond Basin Area	Western Unit	Eastern Unit
	Monk Hill Basin	Pasadena Subarea	Santa Anita Subarea			
1944-45	925	53	0	978	$ 29.88	$
45-46	550	82	600	1,232	17.49	4.00
46-47	2,750	64	300	3,114	29.39	4.00
47-48	3,150	142	0	3,292	29.88	
48-49	5,150	115	0	5,265	32.16	
49-50	3,782	160	300	4,242	34.77	15.00
1950-51	3,938	96	700	4,734	31.82	15.00
51-52	3,929	100	0	4,029	35.55	15.00
52-53	3,929	72	0	4,001	31.62	
53-54	3,929	67	0	3,996	35.29	
54-55	3,929	215	0	4,144	34.35	
55-56	2,850	41	0	2,891	34.14	
56-57	1,700	10	0	1,710	27.89	
57-58	1,050	0	0	1,050	26.67	
58-59	0	70	0	70	20.00	
59-60	0	45	0	45	25.00	
1960-61	0	25	0	25	20.00	
61-62	0	40	600	640	18.00	31.00
62-63	0	25	0	25	17.00	
63-64	0	30	0	30	17.00	
64-65	0	35	200	235	17.00	64.55
65-66	0	25	300	325	17.00	37.58
66-67	0	0	0	0		
67-68	0	10	0	10	10.00	
68-69	0	40	0	40	25.00	
69-70	0	50	0	50	25.00	
1970-71	0	40	0	40	25.00	
71-72	0	45	0	45	25.00	
72-73	0	45	0	45	35.00	
TOTALS	41,561	1,742	3,000	46,303		

Each April the Watermaster mails an Exchange Pool form to all parties, opening the Pool to inter-member water right leasing. This year, the Royal Laundry and Dry Cleaning Company leased 45 acre-feet of water for $35 per acre-foot from the Kinneloa Irrigation District. The total cost of the water was $1,575.

Water rights may also be leased or sold outright. During 1972-73, two leases were filed with the Watermaster. The City of Pasadena leased 110 and 128 acre-feet from Canyon Mutual Water Company and Kinneloa Irrigation District, respectively. See Appendix D.

Annual Variation in Extraction

The annual amount extracted by each party and the percent of overextraction from the "Decreed Right 1955" are shown in Table 5 (page 24). Exchange water sold or bought is accounted for in the Decreed Right. Barring emergencies, the Judgment prohibits annual extractions that exceed 120 percent of the "Decreed Right 1955", plus or minus exchange water. Five parties -- Lincoln Avenue Water Company, City of Pasadena, Henry E. Huntington Library and Art Gallery, Kinneloa Irrigation District, and Osborn Company -- exceeded this limitation. When the prior year's carryover is considered, only Lincoln Avenue Water Company exceeds this limitation. However, the use of all prior years cumulative carryover is currently under study.

Table 5 also shows the amount extracted by the City of Pasadena in the Monk Hill Basin and the Pasadena Subarea. However, the City's "Decreed Right 1955' is the total volume of water that it can take from the Western Unit; this, therefore, is separately recapitulated.

Five-Year Variation in Extraction

The Judgment also states that the total amount pumped or taken by any party in any 60 consecutive months (five years) cannot exceed the amount released to it by the Exchange Agreement and five times the Party's decreed right.

Table 8 summarizes annual variation from the "Decreed Right 1955" and the cumulative five-year variation. Parties with negative (-) value under "Five-year variation" column exceeded this limitation.

Table 8. ANNUAL AND FIVE-YEAR VARIATION FROM DECREED RIGHT [a/]

In acre-feet

Party	Year 1968-69	1969-70	1970-71	1971-72	1972-73 [b/]	Five-year variation
WESTERN UNIT						
(Monk Hill Basin)						
La Canada Irrigation District	+ 29.85	+ 56.32	+ 89.50	+ 84.09	+ 36.31	+ 296.07
Las Flores Water Company	+ 56.74	- 46.92	+ 17.18	- 28.19	- 7.22	- 8.41
Lincoln Avenue Water Company	- 62.64	+ 3.54	+ 8.49	- 104.11	- 159.45	- 314.17
Pasadena Cemetery Association	- 8.08	- 23.06	- 18.37	- 14.05	+ 16.28	- 47.28
Pasadena, City of	- 995.10	- 526.94	- 1,105.44	+ 178.18	- 1,607.15	- 4,056.45
Rubio Canon Land and Water Association	- 145.24	- 266.64	+ 86.35	+ 52.94	- 22.94	- 295.53
Valley Water Company	+ 216.55	- 129.17	+ 124.51	- 87.95	+ 15.73	+ 139.67
Subtotals	- 907.92	- 932.87	- 797.78	+ 80.91	- 1,728.44	- 4,286.10
(Pasadena Subarea)						
Alhambra, City of	- 1.67	+ 261.98	- 108.79	+ 128.87	- 0.63	+ 279.76
Arcadia, City of	+ 53.89	+ 189.19	- 254.47	- 12.83	+ 74.81	+ 50.59
California-American Water Company	- 41.03	+ 22.70	+ 30.41	- 190.18	+ 325.27	+ 147.17
Canyon Mutual Water Company	+ 95.85	+ 72.66	+ 76.84	+ 89.12	- 0.76	+ 333.71
East Pasadena Water Company	+ 154.73	+ 75.97	+ 12.67	+ 85.29	+ 141.38	+ 470.04
Henry E. Huntington Library and Art Gallery	+ 46.80	- 20.65	- 40.19	- 124.84	- 76.20	- 215.08
Kinneloa Irrigation District	- 2.45	+ 94.77	+ 99.16	+ 35.96	- 90.54	+ 136.90
Mira Loma Mutual Water Company	+ 19.46	+ 44.83	+ 67.51	+ 64.23	+ 79.95	+ 275.98
Monrovia, City of	- 39.27	- 99.31	- 226.16	+ 269.69	- 69.88	- 164.93
Osborn Company	- 7.08	- 15.33	- 18.72	- 18.83	- 10.20	- 70.16
Pasadena, City of	+ 2,041.14	- 1,468.97	+ 1,185.24	- 386.88	- 155.08	+ 1,525.61
Royal Laundry and Dry Cleaning Company	- 0.18	+ 9.16	- 4.82	- 3.24	- 5.63	- 4.71
San Gabriel County Water District	+ 38.39	- 14.92	- 14.03	+ 18.29	- 5.33	+ 22.40
Sunny Slope Water Company	+ 4.71	- 19.40	- 53.24	+ 529.26	- 5.34	+ 455.99
Subtotals	+ 2,363.29	- 867.32	+ 751.41	+ 483.91	+ 511.98	+ 3,243.27
TOTALS - WESTERN UNIT	+ 1,455.37	- 1,800.19	- 46.37	+ 564.82	- 1,216.46	- 1,042.83
Recapitulation for City of Pasadena	+ 1,046.04	- 1,995.91	+ 79.80	- 208.70	- 1,690.07	- 2,768.84
EASTERN UNIT						
(Santa Anita Subarea)						
Arcadia, City of	+ 565.32	- 332.61	- 186.80	+ 90.74	- 438.92	- 302.27
Sierra Madre, City of [c/]	+ 212.91	+ 177.44	- 134.75	- 594.84	- 72.32	- 411.56
TOTALS - EASTERN UNIT	+ 778.23	- 155.17	- 321.55	- 504.10	- 511.24	- 713.83
GRAND TOTALS	+ 2,233.60	- 1,955.36	- 367.92	+ 60.72	- 1,727.70	- 1,756.66

a/ Difference between extractions and decreed rights as shown in past reports. Carryover balances are not accounted for in this tabulation. Overextractions are shown as negative (-) values.
b/ Values from Column (3), Table 5.
c/ Excludes salvage water pumped.

Variations from Safe Yield

Table 9 summarizes annual extractions from 1950-51 to the present and compares average annual extraction with safe yield. It also shows years in which extractions exceeded safe yield. At present, average annual extractions in each subarea are less than safe yield, an occurrence that is undoubtedly aided by the above-average total precipitation during the last eight years. However, the second lowest precipitation of record during 1971-72 and below average for the past period 1969-72 has narrowed the gap.

Table 9. VARIATION OF ANNUAL EXTRACTIONS FROM SAFE YIELD

July 1 through June 30	Annual extractions				
	Western Unit			Eastern Unit[a/]	Raymond Basin Area
	Monk Hill Basin	Pasadena Subarea	Subtotal		
1950-51	7,098	13,418	20,516	2,861	23,377
51-52	5,903	10,750	16,653	2,041	18,694
52-53	5,973	12,471	18,444	4,535	22,979
53-54	6,283	11,765	18,048	4,163	22,211
54-55	6,420	12,783	19,203	4,399	23,602
Average annual extractions	6,363	11,683	18,046	3,639	21,685
Safe yield 1938[b/]	6,039	11,621	17,660	3,791	21,451
Average difference[c/]	+ 324	+ 62	+ 386	- 152	+ 234
1955-56	6,319	14,060	20,379	4,687	25,066
56-57	7,057	17,474	24,531	5,685	30,216
57-58	5,916	16,054	21,970	3,823	25,793
58-59	8,160	18,027	26,187	7,018	33,205
59-60	7,992	16,428	24,420	4,858	29,278
1960-61	7,141	18,796	25,937	3,342[d/]	29,279
61-62	6,742	18,419	25,161	3,496[d/]	28,657
62-63	8,084	16,630	24,714	5,268	29,982
63-64	7,937	17,469	25,406	4,778[d/]	30,184
64-65	7,450	17,682	25,132	3,599[d/]	28,731
65-66	6,583	19,397	25,980	3,388[d/]	29,368
66-67	5,096	17,241	22,337	3,369	25,706
67-68	7,059	19,984	27,043	7,031	34,074
68-69	8,397	15,490	23,887	4,511	28,398
69-70	8,422	18,710	27,132	5,445	32,577
1970-71	8,287	17,091	25,378	5,612	30,990
71-72	7,408	17,359	24,767	5,794	30,561
72-73	9,217	17,331	26,548	5,801	32,349
Average annual extractions	7,404	17,425	24,828	4,861	29,689
Safe yield 1952[a/]	7,489	17,843	25,332	5,290	30,622
Average difference[c/]	- 85	- 418	- 504	- 429	- 933

a/ Excludes salvaged water pumped by City of Sierra Madre.
b/ Effective 1944-45 through 1954-55 and excludes nonparty pumpage.
c/ Extractions greater than safe yield: (+).
Extractions less than safe yield: (-).
d/ Reduction in extraction by order of Watermaster.
e/ Effective 1955-56 through present and excludes nonparty pumpage.

V. ADMINISTRATIVE COSTS

Under the provisions of Section 4201, California Water Code, the cost of watermaster service is shared equally by the State and the parties to the Judgment.

Before each December 15, the Watermaster in cooperation with the Raymond Basin Advisory Board, prepares the budget for the fiscal year beginning the next July 1. The 1972-73 budget, approved by the Board on December 7, 1971, is shown in Table 10.

The Raymond Basin budget contains two sections (Table 11). Part "A" supports the cost of administering the Raymond Basin Judgment. Each party's share of that cost is directly proportionate to the party's "Decreed Right 1955".

Table 10. APPROVED BUDGET FOR 1972-73

PART "A" - Cost Other Than Exchange Water Program			
Salaries and wages	$19,962		
Operating expenses	7,195		
Retirement and compensation plus administration	4,368		
Total Amount		$31,525	
One-half payable by State			$15,763
One-half payable by parties			15,762
Less estimated carryover from 1971-72			0
Total collectibla from parties			$15,762
PART "B" - Cost of Exchange Water Program			
Salaries and wages	$ 80		
Retirement and compensation plus administration	20		
Total Amount		$ 100	
One-half payable by State			$ 50
One-half payable by participants in release and receipt of water			50
TOTAL ESTIMATED COST OF Watermaster Service July 1, 1972 through June 30, 1973		$31,625	

Table 11. APPORTIONMENT OF 1972-73 BUDGET

Part "A"

Party	"Decreed Right 1955", in acre-feet	Apportionment paid
Alhambra, City of	1,031	$ 530.68
Arcadia, City of	4,693	2,415.63
California-American Water Company	2,299	1,183.35
Canyon Mutual Water Company	127	65.37
East Pasadena Water Company, Ltd.	515	265.08
Henry E. Huntington Library and Art Gallery	262	134.86
Kinneloa Irrigation District	229	117.87
La Canada Irrigation District	100	51.47
Las Flores Water Company	249	128.16
Lincoln Avenue Water Company	567	291.85
Mira Loma Mutual Water Company	148	76.18
Monrovia, City of	951	489.51
Osborn Company	12	6.18
Pasadena Cemetery Association	91	46.84
Pasadena, City of	12,807	6,592.13
Royal Laundry and Dry Cleaning Company	110	56.62
Rubio Canon Land and Water Association	1,221	628.48
San Gabriel County Water District	1,091	561.57
Sierra Madre, City of	1,764	907.98
Sunny Slope Water Company	1,558	801.95
Valley Water Company	797	410.24
TOTALS	30,622	$15,762.00

Part "B"

Party	Amount of water exchanged, in acre-feet	Amount paid
Kinneloa Irrigation District	45	$25.00
Royal Laundry and Dry Cleaning Company	45	25.00
TOTALS		$50.00

Part "B" supports the cost of operating the Raymond Basin Exchange Pool. Only the parties that participated in the Pool were charged for that cost. Each party's share of the 1972-73 budget is shown in Table 11. No penalties were assessed for late payments.

Income and expenditures under both parts of the budget appear in Table 12. Credit or debit balances shown there are carried forward into the next fiscal year, as directed by Sections 4358 and 4406 of the State Water Code and Paragraph XIII of the Judgment.

Costs of Determining Salvage Credit for City of Sierra Madre

On June 30, 1972 an adjusted credit balance of $4.57 remained in the special account established to pay the cost of determining amounts of water salvaged by the City of Sierra Madre. During the 1972-73 season, on request, the City deposited $400 to this account. Expenditures during this season totaled $387.37. A credit balance of $17.20 remained in the account on June 30, 1973.

Table 12. STATEMENT OF 1972–73 INCOME AND EXPENDITURES

Item	Parties		State		State and Parties	
Income						
From Part "A" of the budget	$15,762.00		$15,763.00		$31,525.00	
From Part "B" of the budget	50.00		50.00		100.00	
Carryover from 1971-72	1,739.38[a]		0.00		1,739.38	
Total Income		$17,551.38		$15,813.00		$33,364.38
Expenditures						
From Part "A" of the budget						
Salaries and wages	$12,038.83		$12,038.83		$24,077.66	
Operating expenses						
Miscellaneous indirect costs[b]	3,554.05		3,554.05		7,108.10	
Travel in State	12.34		12.34		24.68	
Mobil Equipment rental and operation	295.96		295.95		591.91	
Printing plates and covers for annual report	153.84		153.85		307.69	
Electronic machine computing	1,216.34		1,216.34		2,432.68	
From Part "B" of the budget						
Salaries and wages	40.00		40.00		80.00	
Operating expenses	10.00		10.00		20.00	
Total Expenditures		$17,321.36		$17,321.36		$34,642.72
BALANCE		$ 230.02[c]		-$ 1,508.36		-$ 1,278.34

a/ Adjusted for 1971-72 delayed charges and credits.
b/ Rent, utilities, auto rental, janitorial services, communications, retirement, employees' health plan, and workmen's compensation insurance.
c/ Subject to delayed charges and credits.

APPENDIX A

MEAN DAILY DISCHARGE AT SURFACE RUNOFF STATIONS OPERATED BY THE WATERMASTER 1972–73 WATERMASTER YEAR

AND

MEAN DAILY DISCHARGE AT SURFACE RUNOFF STATIONS OPERATED BY THE WATERMASTER 1971–72 WATERMASTER YEAR (Corrected)

APPENDIX A: MEAN DAILY DISCHARGE AT SURFACE RUNOFF STATIONS OPERATED BY THE WATERMASTER. 1972–73 WATERMASTER YEAR

STATION: ARCADIA WASH

MEAN DAILY DISCHARGE in second-feet

STATION NO.	WATERMASTER YEAR
75450	1972–73

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	[illegible]	[illegible]	[illegible]	.4	1.1	.5	.4	.2	.3	.3	.5	.4	1
2	.7	[illegible]	.4	.8	1.8	.4	.4	.2	.2	.4	.5	.4	2
3	[illegible]	.7	[illegible]	.8	1.1	.4	.4	13.3	.2	.3	.5	.4	3
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.7	[illegible]	.3	.4	.4	4
5	[illegible]	.8	.4	.4	1.4	.4	[illegible]	[illegible]	[illegible]	.3	.5	.4	5
6	[illegible]	[illegible]	.8	1.8	[illegible]	[illegible]	.2	27.3	8.4	.2	.4	.4	6
7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8.9	.1	19.5	.4	.2	.4	.4	7
8	[illegible]	[illegible]	[illegible]	7.4	[illegible]	1.1	.2	.3	12.8	.2	.4	.4	8
9	[illegible]	1.4	[illegible]	[illegible]	[illegible]	.3	.7	.2	.4	.3	.4	.4	9
10	[illegible]	1.8	.8	[illegible]	[illegible]	.3	[illegible]	24.8	.3	.2	.4	.4	10
11	[illegible]	[illegible]	[illegible]	[illegible]	18.3	.3	.2	75.3	30.1	.2	.5	.5	11
12	[illegible]	11.1	.7	1.8	.7	.4	.2	25.8	.9	.3	.4	.6	12
13	[illegible]	[illegible]	[illegible]	[illegible]	.8	.4	[illegible]	8.5	.5	.4	.5	.4	13
14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.3	[illegible]	3.7	.4	.4	.5	.5	14
15	[illegible]	[illegible]	[illegible]	[illegible]	.8	.3	.3	.4	.4	.4	.4	.5	15
16	[illegible]	[illegible]	.9	1.7	[illegible]	.3	33.4	.4	.2	.4	.4	.4	16
17	[illegible]	[illegible]	.4	1.4	[illegible]	.2	.4	.3	.3	.3	.4	.4	17
18	[illegible]	1.4	.7	[illegible]	.4	.3	35.1	.3	.2	.4	.4	.5	18
19	[illegible]	1.1	.7	[illegible]	.3	.3	[illegible]	.3	.3	.4	.4	.5	19
20	.8	[illegible]	[illegible]	[illegible]	.3	.3	.3	.3	20.8	.4	.4	.5	20
21	[illegible]	[illegible]	[illegible]	.9	.3	.3	.3	.3	6.4	.4	.4	.6	21
22	1.0	1.4	[illegible]	.7	.3	.3	.3	.3	.5	.4	.4	.7	22
23	[illegible]	1.1	[illegible]	1.4	.3	.3	.2	.4	.5	.4	.4	.8	23
24	[illegible]	1.1	[illegible]	1.3	.3	.4	.2	.3	.4	.4	.4	.8	24
25	[illegible]	1.1	.4	1.0	.3	.3	.2	.3	.4	.4	.4	1.0	25
26	.7	.9	.4	1.1	.3	.3	.2	.4	.4	.5	.4	1.1	26
27	.4	[illegible]	.4	1.4	.4	.3	.2	37.5	.3	.4	.4	1.1	27
28	[illegible]	.4	.4	1.4	.3	.3	.2	5.0	.4	.4	.4	1.1	28
29	.5	[illegible]	.4	1.2	.3	.3	.4		.4	.4	.5	.9	29
30	.6	.4	.5	1.9	.3	.3	2.4		.4	.4	.4	.8	30
31	.7	.5		1.5		.3	.2		.3		.4		31
MEAN	[illegible]	1.5	.7	1.4	3.2	1.5	2.6	8.9	2.9	.3	.4	.6	MEAN
MAX.	[illegible]	11.1	[illegible]	7.4	23.7	26.4	35.1	75.3	30.1	.5	.5	1.1	MAX.
MIN.	.4	.4	.3	.4	.3	.2	.1	.2	.2	.2	.4	.4	MIN.
ACFT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	92.6	157.0	444.2	176.0	20.7	25.5	34.7	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
2.23	849.74	2.17	2	27	2304	0	0	6	20	0950	1582.70

STATION: ARROYO SECO

MEAN DAILY DISCHARGE in second-feet

STATION NO.	WATERMASTER YEAR
62250	1972–73

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	1.6	67.2	18.0	.5	.2	1
2	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	1.2	66.1	54.8	.5	.2	2
3	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	2.1	65.5	16.4	.5	.1	3
4	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	11.1	NO FLOW	1.9	65.5	9.9	.4	.2	4
5	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	3.5	NO FLOW	.4	65.5	5.0	.4	.2	5
6	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.2	NO FLOW	11.2	65.5	2.9	.4	.3	6
7	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	5.3	NO FLOW	55.5	65.5	.9	.4	.2	7
8	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	1.7	NO FLOW	18.4	65.5	1.3	.5	.2	8
9	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.3	NO FLOW	6.9	65.5	1.2	.5	.0	9
10	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.2	NO FLOW	23.3	65.5	1.1	.5	NO FLOW	10
11	NO FLOW	NO FLOW	NO FLOW	NO FLOW	3.7	.2	.5	135.9	65.5	.9	.5	NO FLOW	11
12	NO FLOW	NO FLOW	NO FLOW	NO FLOW	1.1	.2	NO FLOW	106.4	65.5	1.0	.5	NO FLOW	12
13	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.2	.2	NO FLOW	100.9	65.5	1.0	.5	NO FLOW	13
14	NO FLOW	NO FLOW	NO FLOW	NO FLOW	6.3	.2	NO FLOW	96.8	65.5	.9	.5	NO FLOW	14
15	NO FLOW	NO FLOW	NO FLOW	NO FLOW	2.3	.2	NO FLOW	96.8	65.5	.9	.5	NO FLOW	15
16	NO FLOW	NO FLOW	NO FLOW	NO FLOW	4.1	.2	4.7	96.2	65.5	1.1	.5	NO FLOW	16
17	NO FLOW	NO FLOW	NO FLOW	NO FLOW	6.7	.2	6.7	94.9	65.5	.7	.5	NO FLOW	17
18	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.2	.2	20.4	93.6	65.5	.9	.6	NO FLOW	18
19	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.1	.2	28.0	92.9	65.5	.5	.6	NO FLOW	19
20	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.0	.2	6.4	92.3	65.5	.5	.6	NO FLOW	20
21	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.2	3.7	91.7	65.5	.5	.6	NO FLOW	21
22	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.2	.2	1.6	92.3	65.5	.4	.6	NO FLOW	22
23	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.2	.4	92.9	65.5	.6	.6	NO FLOW	23
24	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.2	.2	92.9	65.5	.7	.5	NO FLOW	24
25	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.4	.2	92.9	65.5	.5	.3	NO FLOW	25
26	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.2	.1	92.9	65.5	.5	.2	.0	26
27	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.2	NO FLOW	92.9	65.5	.5	.2	.1	27
28	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	.0	NO FLOW	97.1	65.5	.5	.3	.1	28
29	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	1.8		65.5	.5	.4	.0	29
30	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW	2.8		65.5	.5	.3	.0	30
31	NO FLOW	NO FLOW		NO FLOW		NO FLOW	2.2		65.5		.2		31
MEAN	0	0	0	0	1.0	.8	2.6	67.0	65.6	4.2	.5	.1	MEAN
MAX.	0	0	0	0	9.1	11.1	28.0	135.9	67.2	54.8	.6	.3	MAX.
MIN.	0	0	0	0	0	0	0	.4	65.5	.4	.2	0	MIN.
ACFT	0	0	0	0	58.9	51.3	158.3	3718.9	4034.3	247.8	28.5	3.6	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
11.82	237.40	2.20	2	11	1131	0	0	7	1	0000	8301.60

APPENDIX A (continued)

STATION: **BROADWAY DRAIN**

MEAN DAILY DISCHARGE
in second-feet

STATION NO.	WATERMASTER YEAR
75135	1972–73

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	1.0	.2	1.5	1.0	.7	.9	1.2	1.6	3.0	.6	.4	.5	1
2	.6	.3	2.6	1.4	1.4	.9	1.1	1.6	1.6	.7	.3	.5	2
3	1.0	.7	2.8	2.1	1.5	1.0	1.1	19.9	1.1	.9	.2	.8	3
4	1.0	.8	4.3	2.0	1.2	23.5	1.1	4.4	1.5	.5	.2	.7	4
5	.1	.4	2.0	1.4	.9	1.1	1.0	8.2	2.1	.2	.2	.8	5
6	.7	.2	1.6	.6	.9	3.3	.9	14.9	12.0	.3	.3	.8	6
7	.1	.3	1.6	.9	.7	6.2	1.1	30.6	1.2	.5	.6	.7	7
8	.2	.5	1.8	.6	1.1	3.3	1.1	2.1	15.2	.7	.6	.6	8
9	.1	.3	2.3	.6	1.0	1.2	4.4	2.2	1.5	.7	1.0	.5	9
10	.2	.4	1.5	.7	2.4	1.2	1.5	28.4	.7	.6	.4	.5	10
11	.1	.2	1.1	.5	15.3	1.4	1.5	49.5	16.3	.4	.4	.7	11
12	.1	6.3	1.3	.8	1.5	1.3	.7	15.8	2.0	.4	.3	.6	12
13	.3	1.0	1.1	1.6	1.5	1.2	1.1	8.5	1.7	.4	.4	.4	13
14	.1	.8	1.5	.9	17.6	1.1	1.2	4.6	.9	.3	.3	.5	14
15	.2	1.6	1.5	.9	1.3	2.0	1.2	3.0	1.1	.5	.5	.4	15
16	.2	1.6	.4	.3	23.2	1.5	34.9	2.2	.5	.9	.5	.4	16
17	.2	3.4	.6	.7	5.9	1.7	1.6	1.3	.5	.6	.4	.4	17
18	.3	1.7	.8	1.5	1.1	1.7	35.5	1.2	.6	.5	.6	.4	18
19	.1	2.0	.9	2.2	1.1	1.5	5.1	1.5	.9	.4	.7	.4	19
20	.1	.7	.6	.6	1.4	1.2	3.9	2.6	14.8	.6	1.4	.4	20
21	.5	.7	1.9	.2	1.5	.8	1.4	2.3	9.1	.5	1.3	.7	21
22	.1	1.3	1.2	.4	1.3	.8	2.9	1.8	2.0	.3	1.1	.6	22
23	.2	.5	.6	15.7	1.2	.8	2.6	1.8	1.0	.3	.8	.4	23
24	.5	.7	.5	.3	1.0	.8	1.5	1.4	.4	.7	.6	.4	24
25	.3	.7	.8	.3	1.0	.8	1.5	1.3	.4	.9	.4	.6	25
26	.2	1.0	1.0	.9	1.1	.7	1.7	1.4	1.0	.5	.4	.4	26
27	.3	.6	.6	.8	1.5	.8	1.4	22.1	.5	.3	.4	.4	27
28	.2	1.1	.9	6.7	1.3	1.3	1.3	6.9	.5	.3	.4	.4	28
29	.2	1.0	1.2	1.0	1.0	1.9	1.3		.8	.4	.3	.3	29
30	.2	1.4	.6	.6	1.1	1.2	4.4		.8	.5	.4	.3	30
31	1.0	.9		.7		1.3	1.5		.6		.4		31
MEAN	.3	1.1	1.4	1.6	3.1	2.2	4.0	8.7	3.1	.5	.5	.5	MEAN
MAX.	1.0	6.3	4.3	15.7	23.2	23.5	35.5	49.5	16.3	.9	1.4	.8	MAX.
MIN.	.1	.2	.4	.2	.7	.7	.7	1.2	.4	.2	.2	.3	MIN.
ACFT	21.1	66.7	81.8	96.7	187.2	135.8	243.5	481.8	190.9	31.3	32.1	31.1	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
2.25	407.34	2.40	1	18	1900	.03	.03	7	14	1348	1600.00

STATION: **EATON CREEK NEAR PASADENA**

MEAN DAILY DISCHARGE
in second-feet

STATION NO.	WATERMASTER YEAR
75360	1972–73

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	16.1	.3	.7	.8	.6	1.5	1.8	2.0	15.0	7.2	5.3	4.9	1
2	15.0	.2	.9	.9	1.0	1.4	1.6	2.0	13.8	8.8	5.1	4.6	2
3	15.3	.2	.7	.9	1.0	1.4	1.4	2.2	13.8	9.6	4.9	4.5	3
4	17.4	.2	.7	1.1	1.0	3.8	1.4	2.3	13.8	10.0	4.7	4.3	4
5	16.8	.2	.9	.9	.7	3.4	1.4	7.5	13.1	9.8	4.9	4.0	5
6	16.8	.2	.9	.8	.3	2.5	1.2	20.7	16.5	9.1	4.9	3.7	6
7	15.6	.2	.9	.8	.2	3.8	2.7	5.8	14.7	8.6	4.8	3.6	7
8	16.5	.2	.9	1.3	.2	3.3	5.2	1.7	16.8	7.1	4.7	2.7	8
9	16.3	.2	1.0	1.3	.2	3.0	5.6	1.7	16.4	6.2	4.7	1.5	9
10	16.0	.2	1.0	.9	.2	2.8	5.6	49.9	15.4	6.2	4.6	1.3	10
11	16.5	.2	1.0	.9	.5	2.7	5.6	112.4	23.0	6.1	4.6	1.4	11
12	15.8	.3	1.0	1.0	.6	2.5	5.6	10.0	28.4	6.1	4.6	1.4	12
13	15.0	.5	.9	.7	.2	2.5	3.5	19.2	21.8	6.2	4.5	1.3	13
14	16.1	.6	.9	.7	1.6	2.5	1.2	17.5	17.2	6.2	4.5	1.5	14
15	15.6	.7	.7	.6	1.8	2.3	1.1	16.8	15.5	6.2	4.4	1.5	15
16	16.8	.7	.8	.7	2.9	2.0	2.5	17.2	14.3	6.2	4.2	1.5	16
17	16.3	.7	.8	.6	2.7	2.0	3.1	14.5	13.3	6.2	4.2	1.6	17
18	16.5	.8	.8	.8	1.9	1.8	6.6	12.7	13.3	6.0	4.2	1.5	18
19	17.0	.9	.9	.8	1.7	1.7	11.0	11.1	12.4	6.0	4.1	5.3	19
20	5.3	.9	.7	.8	1.7	1.7	5.4	9.8	14.7	5.9	4.1	14.8	20
21	.6	.9	.6	.8	1.7	2.3	4.3	9.3	8.8	5.7	3.8	14.6	21
22	.3	.9	.8	.8	1.6	2.2	3.7	8.7	12.6	5.7	3.6	14.4	22
23	.6	.9	.8	.8	1.6	1.9	3.2	7.8	11.7	5.7	3.6	14.1	23
24	.2	.9	.7	.9	1.5	1.6	2.8	6.9	10.9	5.6	3.6	14.0	24
25	.3	.9	.8	.9	1.6	1.8	2.5	5.3	9.6	5.5	3.6	14.0	25
26	.7	.8	.8	.9	1.5	1.7	2.2	5.0	9.6	5.5	3.7	13.9	26
27	.3	.9	.8	1.0	1.6	1.8	2.1	9.9	9.2	5.5	3.5	13.9	27
28	.3	.9	.8	1.1	1.6	1.7	2.0	22.4	8.6	5.6	4.1	9.1	28
29	.3	.8	.9	1.0	1.6	1.6	2.0		8.3	5.5	5.0	.9	29
30	.4	.6	.9	.3	1.6	1.5	2.0		7.9	5.5	4.6	.9	30
31	.2	.6		.3		1.5	2.0		7.6		4.8		31
MEAN	10.2	.6	.8	.8	1.2	2.2	3.3	14.7	13.8	6.6	4.4	5.9	MEAN
MAX.	17.4	.9	1.0	1.3	2.9	3.8	11.0	112.4	28.4	10.0	5.3	14.8	MAX.
MIN.	.2	.2	.6	.3	.2	1.4	1.1	1.7	7.6	5.5	3.5	.9	MIN.
ACFT	628.7	34.5	48.7	51.3	73.6	133.8	202.8	816.4	847.7	395.9	269.7	349.2	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
5.38	494.42	3.10	2	10	2248	.08	.06	7	24	2357	3851.80

STATION: EATON WASH

MEAN DAILY DISCHARGE in second-feet

STATION NO.	WATERMASTER YEAR
75300	1972–73

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.1	.2	.4	.1	.7	.1	.0	.1	2.4	.1	.2	.1	1
2	.1	.2	.2	.1	1.4	.1	.4	.1	2.7	.1	.1	.1	2
3	.1	.4	2.0	.1	1.1	.1	.2	14.5	2.1	.1	.1	.0	3
4	.0	.2	.1	.1	1.1	38.6	.5	2.4	1.3	.2	.1	.1	4
5	.1	.2	.2	.1	.7	.1	.2	5.0	1.1	.7	.1	.1	5
6	.1	.4	.4	.2	1.4	1.7	.1	49.0	5.5	1.5	.0	.1	6
7	.1	.1	.1	.1	1.2	20.5	.1	34.3	.8	1.3	.1	.1	7
8	.1	.2	.1	.0	1.2	2.7	.2	.1	16.4	1.3	.1	.1	8
9	.1	.3	.2	.1	1.5	.0	5.4	.0	1.0	1.7	.0	.1	9
10	.2	.3	.1	.1	4.1	.0	.3	35.5	1.6	1.4	.1	.1	10
11	.1	.4	.1	.1	14.2	.1	.2	191.2	31.7	1.8	.0	.3	11
12	.1	.4	.1	.1	.0	.1	.2	51.0	1.3	1.8	.0	.1	12
13	.1	.3	.1	.1	.1	.1	.1	34.3	1.2	2.3	.0	.1	13
14	.2	.2	.2	.1	17.8	.1	.1	15.8	1.0	1.4	.1	.2	14
15	.1	.2	.1	.1	.1	.1	.2	26.9	.9	1.9	.0	.2	15
16	.1	.2	.0	.2	23.4	.1	27.1	15.6	.8	1.7	.1	.1	16
17	.1	.2	.0	.3	6.6	.1	.3	.1	.7	1.5	.1	.0	17
18	.2	.3	.0	2.5	.0	.1	38.9	.1	.6	1.3	.1	.3	18
19	.2	.1	.1	.3	.0	.1	.7	.3	.5	1.3	.1	.2	19
20	.2	.1	.2	.5	.0	.1	15.4	.6	28.9	1.0	.0	.4	20
21	.4	.1	.3	.0	.0	.1	.9	8.1	11.7	.6	.1	.1	21
22	.1	.1	.3	.1	.0	.0	.1	.3	.3	.5	.1	.2	22
23	.1	.3	.1	.1	.0	.0	.1	.1	.3	.5	.0	.1	23
24	.1	.3	.2	.2	.0	.0	.2	.1	.4	.9	.1	.1	24
25	.1	.2	.2	.1	.0	.0	.2	.1	.5	.8	.2	.2	25
26	.2	.1	.5	.0	.0	.0	.1	1.0	.5	.6	.0	.3	26
27	.1	.3	.2	.4	.1	.0	.1	37.2	.4	1.0	.0	.2	27
28	.1	.2	.3	.1	.1	.0	.1	9.1	.3	1.3	.0	.2	28
29	.0	.1	.3	.1	.1	.0	.1		.3	1.6	.0	.3	29
30	.0	.2	.1	1.2	.1	.0	5.6		.2	1.3	.1	.3	30
31	.2	.3		1.1		.0	.1		.2		.1		31
MEAN	.1	.4	.2	.3	2.7	2.1	3.2	19.2	3.8	1.1	.1	.2	MEAN
MAX.	.4	4.4	2.0	2.8	23.9	38.2	38.9	191.2	31.7	2.3	.2	.4	MAX.
MIN.	0	.1	0	0	0	0	0	0	.2	.1	0	0	MIN.
ACFT	7.4	23.2	14.7	18.0	162.7	131.8	195.7	1067.4	234.2	68.1	4.1	9.0	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
2.74	730.78	2.03	2	11	0245	0	0	7	22	2136	1937.10

STATION: FLINT WASH

MEAN DAILY DISCHARGE in second-feet

STATION NO.	WATERMASTER YEAR
62190	1972–73

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.1	.1	.2	.4	.2	.2	.3	.7	2.3	1.1	.8	.4	1
2	.1	.3	.2	.5	.2	.2	.4	.7	1.7	.8	.8	.3	2
3	.1	.0	.2	.4	.2	.3	.4	19.7	1.8	.6	1.1	.4	3
4	.1	.0	.4	.3	.3	66.3	.6	6.9	4.4	.5	.5	.3	4
5	.1	.1	.3	.2	.2	.9	.5	4.7	1.3	.5	.8	.3	5
6	.1	.2	.3	.2	.3	12.6	.5	20.2	21.6	.5	.3	.4	6
7	.1	.0	.3	.4	.2	24.1	.4	35.5	1.8	.5	.3	.3	7
8	.1	.1	.3	.2	.2	6.1	.4	2.4	39.1	.5	.3	.3	8
9	.1	.0	.1	.2	.2	.9	7.6	2.2	3.1	.4	.3	.3	9
10	.1	.0	.2	.3	2.0	.8	.9	28.8	2.2	.1	.3	.4	10
11	.1	.1	.2	.2	21.0	.7	.3	182.0	79.9	.2	.4	.3	11
12	.1	3.2	.2	.2	.2	.7	.3	10.5	6.2	.1	.3	.3	12
13	.1	.5	.2	.2	.3	.7	.4	7.1	65.6	.1	.3	.2	13
14	.1	.2	.4	.2	33.4	.6	.3	5.5	2.7	NO FLOW	.6	.8	14
15	.0	.1	.3	.2	.5	.6	.3	3.4	2.0	NO FLOW	.3	.3	15
16	.1	.1	.3	.6	60.4	.6	66.7	2.7	1.9	.2	.3	.2	16
17	.2	.1	.4	.2	11.2	.6	1.9	2.1	1.9	.5	.3	.2	17
18	.1	.1	.3	7.8	.7	.6	42.9	1.9	1.5	1.4	.3	.2	18
19	.2	.1	.3	2.6	.5	.6	4.5	1.6	1.2	1.3	.3	.3	19
20	.0	.2	.3	.4	.5	.5	3.2	1.4	44.6	1.2	.3	.2	20
21	.1	.2	.2	.2	.6	.5	3.1	1.3	26.4	1.0	.3	.2	21
22	.1	.2	.3	.3	.5	.5	2.3	1.2	3.9	1.0	.3	.4	22
23	.1	.1	.3	.3	.4	.5	3.6	.9	2.1	1.6	.3	.7	23
24	.1	.2	.3	.2	.4	.5	3.0	1.0	2.1	.8	.3	.2	24
25	.0	.3	.3	.2	.3	.5	2.1	.9	1.7	.2	.4	.2	25
26	.0	.4	.3	.2	.4	.5	.9	1.0	1.8	.2	.3	.2	26
27	.1	.5	.2	.2	.3	.4	.7	55.1	1.7	.0	.3	.3	27
28	.1	.2	.3	.3	.4	.3	.6	22.7	1.6	.0	.3	.3	28
29	.1	.2	.3	.2	.2	.3	.5		1.2	1.4	.3	.5	29
30	.2	.1	.3	.1	.2	.3	5.8		1.1	.9	.3	.3	30
31	.2	.2		.3		.3	.7		1.0		.5		31
MEAN	.1	.3	.3	.6	4.5	4.0	6.7	15.2	10.7	.6	.4	.3	MEAN
MAX.	.2	3.2	.4	7.8	60.4	66.3	92.9	182.0	79.9	1.6	1.1	.8	MAX.
MIN.	0	0	.1	.1	.2	.2	.3	.7	1.0	0	.3	.2	MIN.
ACFT	6.2	16.5	16.2	35.8	270.6	244.3	409.0	841.6	656.9	35.0	23.6	19.1	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
3.64	892.44	4.55	3	13	0648	0	0	7	17	0402	2574.80

APPENDIX A (continued)

STATION: **RUBIO DRAIN**

MEAN DAILY DISCHARGE
in second-feet

STATION NO.	WATERMASTER YEAR
75220	1972–73

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	1.4	.7	1.2	.8	1.1	1.1	.7	.7	1.6	1.1	1.7	1.2	1
2	1.1	1.7	1.2	1.3	1.0	1.1	.9	.7	1.1	1.2	1.8	1.2	2
3	1.2	1.9	1.8	1.3	1.0	1.4	.9	28.1	1.0	1.3	2.6	1.1	3
4	1.4	1.8	1.0	1.3	1.4	61.2	1.6	5.3	2.4	1.3	2.2	1.1	4
5	1.5	1.8	1.5	1.4	1.0	1.5	.9	12.8	1.0	1.5	1.5	1.2	5
6	1.5	1.5	1.3	1.4	1.3	8.0	.8	50.7	23.2	1.3	1.2	1.7	6
7	1.8	1.2	1.4	1.4	1.0	19.0	.7	100.6	1.3	1.4	1.8	1.6	7
8	1.4	1.3	1.1	1.1	1.1	6.6	.9	2.4	59.6	1.2	1.3	1.6	8
9	1.4	1.8	1.2	1.3	1.2	.7	7.1	1.5	1.6	1.3	1.4	1.6	9
10	1.4	1.6	1.1	1.2	9.5	.5	1.2	89.1	.9	1.2	1.7	1.5	10
11	1.1	1.7	1.5	1.3	62.8	.7	1.0	1132.2	62.3	1.3	1.4	1.4	11
12	1.1	13.8	.9	1.2	1.3	1.5	.9	548.4	1.6	1.1	1.3	1.5	12
13	1.1	1.4	1.3	1.3	1.9	1.0	.9	35.7	1.4	1.3	1.1	1.6	13
14	1.4	1.4	1.3	1.3	132.4	.8	1.0	7.3	1.0	1.2	1.4	2.2	14
15	1.3	1.6	1.4	1.1	1.7	.7	.9	1.4	1.0	1.1	1.3	1.4	15
16	1.0	1.7	1.3	1.4	94.8	.8	90.8	1.0	1.1	1.4	1.9	1.4	16
17	1.3	1.6	1.1	1.3	13.9	.8	1.8	.9	.8	1.7	1.3	1.4	17
18	1.1	1.5	1.3	1.3	1.2	.9	100.8	.9	.7	1.7	1.3	1.6	18
19	1.3	1.5	1.3	4.4	1.1	.9	4.6	.9	.8	1.7	1.4	1.6	19
20	1.3	1.6	1.4	1.5	1.3	.9	.7	.9	89.6	1.6	1.4	1.7	20
21	1.2	2.0	1.2	1.3	1.3	1.0	.7	.9	26.4	1.7	1.4	1.8	21
22	1.2	1.5	1.2	1.1	1.0	.9	1.0	1.3	1.7	1.4	1.4	1.8	22
23	1.0	1.6	1.0	1.3	1.1	1.0	.8	1.0	1.1	1.8	1.3	1.8	23
24	1.0	1.8	1.0	1.3	1.2	.7	.7	.9	.8	1.4	1.1	1.5	24
25	1.0	2.2	.9	1.3	1.1	1.3	.9	1.0	.8	1.8	1.2	1.6	25
26	1.2	2.3	.8	1.2	1.0	.8	.8	1.1	2.4	1.5	1.3	1.6	26
27	1.2	1.7	.5	1.5	1.0	.8	.9	95.1	.9	1.5	1.4	1.6	27
28	1.2	1.4	.6	1.2	1.0	.7	.7	29.1	1.1	1.7	1.4	1.6	28
29	1.2	1.6	.8	1.2	.9	.7	.7		1.1	1.6	1.5	1.5	29
30	.8	1.8	.9	1.3	1.1	.8	6.7		1.2	1.4	1.5	1.8	30
31	1.2	1.6		1.2		.6	.7		1.1		1.4		31
MEAN	1.2	2.0	1.2	1.4	11.4	3.8	7.5	76.9	9.4	1.4	1.5	1.5	MEAN
MAX.	1.8	13.8	1.8	4.4	132.4	61.2	100.8	1132.2	89.6	1.8	2.6	2.2	MAX.
MIN.	.8	.7	.5	.8	.9	.5	.7	.7	.7	1.1	1.1	1.1	MIN.
ACFT	76.2	123.7	68.5	83.8	679.8	236.3	463.3	4268.2	580.3	84.7	91.0	91.6	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
9.93	2418.82	3.75	2	11	0331	.22	.01	7	20	0819	6847.40

STATION: **SECO DRAIN**

MEAN DAILY DISCHARGE
in second-feet

STATION NO.	WATERMASTER YEAR
62150	1972–73

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.1	.3	2.0	.3	.2	.6	.6	.2	.1	.0	.4	.4	1
2	.1	.4	1.6	.3	.2	.5	.5	.2	.1	.1	.4	.4	2
3	.1	.3	1.5	.1	.3	.5	.6	9.9	.0	.5	.4	.4	3
4	.1	.3	.8	.0	.1	24.4	.6	2.0	1.0	.4	.4	.4	4
5	.1	.5	1.1	.0	.1	.4	.4	9.0	.1	.4	.3	.4	5
6	.1	.7	1.5	.1	.3	4.1	.3	14.0	8.3	.3	.3	.5	6
7	.3	.7	1.2	.2	.4	7.1	.3	31.1	.4	.3	.3	.6	7
8	.3	.7	1.0	.2	.3	2.4	.3	.3	12.6	.3	.2	.6	8
9	.2	.7	1.0	.2	.6	.3	3.1	.3	.2	.5	.4	.6	9
10	.1	.6	.8	.2	2.9	.3	.6	33.2	.1	.6	.3	.6	10
11	.2	.5	.6	.2	20.1	.6	.6	62.1	24.7	.3	.5	.6	11
12	.6	4.4	.6	.1	.6	.7	.6	15.2	.4	.4	.6	.6	12
13	.3	.7	.7	.1	.6	.6	.6	4.3	.3	.6	.5	.6	13
14	.3	.6	.7	.1	16.0	.3	.6	1.6	.2	.5	.6	.6	14
15	.3	.4	.7	.1	.5	.3	.8	.3	.3	.3	.6	.6	15
16	.4	.6	.7	.1	23.7	.3	24.2	.3	.4	.5	1.0	.4	16
17	.7	.6	.6	.1	4.5	.3	.5	.1	.2	.7	.3	.3	17
18	.4	.6	.6	4.4	.5	.3	33.4	.1	.1	.7	.3	.3	18
19	.5	.7	.5	.8	.4	.4	1.0	.2	.2	.6	.3	.3	19
20	.5	.6	.4	.3	.5	.4	.3	.2	20.4	.6	.3	.3	20
21	.7	.4	.6	.1	.4	.4	.3	.2	8.9	.1	.3	.4	21
22	.7	.6	.6	.1	.5	.4	.3	.1	.3	.1	.3	.4	22
23	.7	.7	.4	.2	.6	.5	.4	.1	.4	.2	.3	.4	23
24	.5	.7	.7	.2	.5	.4	.3	.0	.2	.2	.3	.6	24
25	.6	.7	.7	.1	.4	.4	.5	.0	.1	.3	.3	.7	25
26	.6	2.1	.6	.1	.5	.5	.4	.1	1.4	.6	.3	.8	26
27	.4	1.3	.4	.2	.5	.5	.4	22.5	.3	.6	.3	.6	27
28	.3	1.5	.3	.1	.5	.5	.4	7.1	.4	.2	.4	.6	28
29	.3	1.6	.3	.1	.6	.6	.5		.0	.4	.1	.6	29
30	.3	1.8	.4	.1	.6	.6	3.2		.2	.4	.2	.8	30
31	.3	1.8				.9	.2		.0		.4		31
MEAN	.4	.9	.8	2.9	2.7	1.6	2.5	7.7	2.7	.4	.4	.5	MEAN
MAX.	.7	4.4	2.0	80.2	23.7	24.4	33.4	62.1	24.7	.7	1.0	.8	MAX.
MIN.	.1	.3	.3	0	.1	.3	.2	0	0	0	.1	.3	MIN.
ACFT	21.7	55.1	46.6	177.9	158.4	100.0	152.2	425.8	163.6	23.7	22.7	29.6	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
1.96	441.33	2.30	2	11	0228	0	0	7	0	0000	1377.30

STATION: WEST ALTADENA DRAIN

MEAN DAILY DISCHARGE in second-feet

STATION NO.	WATERMASTER YEAR
62985	1972–73

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.1	.1	.1	.1	.0	.1	.0	.0	.0	.1	.1	.6	1
2	.2	.2	.2	.1	.0	.1	.0	.1	.0	.0	.0	.4	2
3	1.0	.8	.0	.1	.2	.0	.2	4.8	.3	.1	.2	.3	3
4	.5	.0	.2	.1	.2	12.2	.1	.4	.5	.0	.3	.2	4
5	.0	.2	.1	.2	.2	.0	.1	4.0	.0	.1	.4	.4	5
6	.0	.1	.4	.2	.1	2.0	.2	5.4	4.4	.3	.2	.7	6
7	.1	.1	.1	.1	.1	1.7	.2	11.5	.1	.1	.2	.3	7
8	.1	.1	.0	.0	.1	.8	.3	.1	4.4	.1	.2	.4	8
9	.0	0	.1	.3	.2	.0	1.5	.0	.3	.0	.3	.8	9
10	.1	.1	.4	.1	.4	.0	.3	21.8	.4	.1	.4	.2	10
11	.0	.2	.0	.5	1.4	.0	.2	33.0	8.7	.0	.4	.2	11
12	.0	1.1	.0	.2	.1	.0	1.1	4.1	.1	.0	.1	.2	12
13	.0	.1	.1	.1	.0	.0	1.7	.7	.0	.2	.1	.1	13
14	.0	.1	.0	.1	1.6	.1	1.6	.2	.0	.0	.1	.7	14
15	.0	.2	.1	.0	.1	.0	.8	.1	.2	.0	.0	.2	15
16	.1	.1	.1	.0	5.4	.0	9.9	.0	.0	.1	.3	.4	16
17	.0	.1	.1	.1	1.2	.0	.3	1.0	.0	.0	.1	.5	17
18	.0	.1	.3	.5	.2	.1	16.8	.2	.0	.0	.1	.3	18
19	.0	.1	.2	.2	.1	.0	.3	.0	.0	.1	.1	.4	19
20	.0	.1	.2	.2	.0	.0	.7	.1	5.8	.0	.1	.4	20
21	.0	.2	.4	.2	.2	.1	.7	.0	1.3	.1	.0	.3	21
22	.0	.4	.4	.0	.0	.0	.0	.0	.1	.1	.0	.4	22
23	.0	.1	.2	.2	.1	.1	.0	.0	.0	.0	.0	.4	23
24	.0	.1	.5	.2	.0	.1	.1	.0	.1	.0	.1	.4	24
25	.0	.3	.3	.1	.1	.0	.3	.0	.1	.1	.1	.4	25
26	.1	.5	.0	.1	.0	.0	.1	.0	.4	.0	.1	.5	26
27	.1	.2	.1	.1	.1	.0	.2	12.7	.2	.0	.1	.4	27
28	.1	.1	.1	.0	.1	.0	.1	2.8	.2	.1	.4	.4	28
29	.1	.3	.0	.1	.1	.0	.0		.0	.3	.7	.4	29
30	.1	.2	.4	.0	.4	.0	1.2		.0	.0	.2	.2	30
31	.3	.5		.1		.0	.0		.1		.7		31
MEAN	.1	.2	.2	.1	.9	.6	1.3	3.7	1.0	.1	.2	.4	MEAN
MAX.	1.0	1.1	.5	.5	8.4	12.2	16.8	33.0	8.7	.3	.7	.8	MAX.
MIN.	0	0	0	0	0	0	0	0	0	0	0	.1	MIN.
ACFT	6.7	13.9	10.4	8.8	52.7	34.6	77.7	204.5	60.9	3.9	12.4	23.0	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
.73	286.20	2.61	2	10	2400	0	0	7	0	0000	504.00

APPENDIX A: MEAN DAILY DISCHARGE AT SURFACE RUNOFF STATIONS OPERATED BY THE WATERMASTER. 1971–72 WATERMASTER YEAR (Corrected)

STATION: ARCADIA WASH

MEAN DAILY DISCHARGE in second-feet

STATION NO.	WATERMASTER YEAR
75450	1971–72

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	2.1	.4	.8	1.4	1.2	.4	1.0	.6	1.0	1.4	.4	.9	1
2	1.3	.7	.8	1.0	1.2	.4	.8	.4	1.3	1.3	.4	1.1	2
3	2.6	.7	.8	1.2	1.0	.9	.9	.3	1.7	1.6	.4	1.0	3
4	2.1	.5	.8	1.3	.9	.6	.8	.4	1.9	1.5	.5	1.0	4
5	.9	.5	1.1	1.6	.9	.4	.7	.6	1.7	1.5	.5	1.0	5
6	1.1	.4	1.1	1.5	.9	.5	.6	.4	2.5	1.3	.5	.9	6
7	2.5	.4	1.1	1.6	.7	.5	.7	.5	1.7	1.1	.5	.7	7
8	2.6	.4	1.2	1.4	1.3	.6	.7	.4	1.4	1.4	.6	.7	8
9	3.0	.4	1.3	1.0	1.1	.6	.7	.5	1.8	1.3	.7	.5	9
10	3.6	.4	1.5	1.0	1.4	.8	.9	.4	2.1	1.4	.7	.5	10
11	5.1	.5	1.4	.9	2.1	.8	.6	.4	1.9	1.4	.6	.5	11
12	5.2	.4	1.4	1.1	6.6	.8	.8	.3	1.5	1.5	.6	.7	12
13	4.6	.4	1.3	.8	1.0	1.3	.9	.3	1.9	1.3	.5	.5	13
14	4.3	.4	1.0	1.1	.9	.6	.7	.6	1.1	2.2	.5	.5	14
15	4.0	.4	1.1	1.5	1.1	.5	.8	.4	1.4	1.3	.5	.6	15
16	5.2	.4	1.2	4.4	.7	.4	.8	.6	1.2	1.3	.5	.6	16
17	4.1	.4	1.2	1.2	.6	.5	.8	.7	1.4	2.0	.5	.8	17
18	4.1	.7	1.0	1.3	.5	.4	.7	.5	1.0	6.0	.6	.8	18
19	4.0	.7	.9	.8	.5	.4	.7	.6	.8	1.9	.6	.8	19
20	3.1	.6	1.1	.9	.5	.4	1.0	.7	1.2	1.2	.5	.8	20
21	3.2	.6	1.2	1.0	.6	.4	.8	.6	1.0	1.1	.5	.9	21
22	3.1	.5	.9	1.3	.9	14.2	.7	1.3	1.1	1.2	.5	1.9	22
23	1.9	.5	1.1	1.4	.8	.7	.5	.8	1.2	1.3	.5	1.2	23
24	1.6	.5	.9	4.9	.8	59.3	.7	1.3	1.4	1.6	.6	1.1	24
25	1.5	.5	1.1	1.0	.6	47.3	.8	1.1	1.0	1.7	.5	1.2	25
26	1.3	.4	1.0	1.0	.8	12.3	.9	.7	1.1	2.0	.6	1.0	26
27	.8	.5	.9	1.0	.9	1.2	.5	.6	1.5	2.1	.6	.9	27
28	1.0	.5	1.1	.9	.8	57.6	.5	1.1	1.3	2.1	.8	.9	28
29	.9	.6	1.4	1.0	.9	3.4	.5	.8	1.4	1.9	1.0	1.4	29
30	.7	.7	1.6	1.0	.9	.9	.5		1.8	1.8	1.0	1.5	30
31	.6	.7		1.1		.7	.6		2.5		1.2		31
MEAN	2.6	.5	1.1	1.4	1.1	6.8	.7	.6	1.5	1.7	.6	.9	MEAN
MAX.	5.2	.7	1.6	4.9	6.6	59.3	1.0	1.3	2.5	6.0	1.2	1.9	MAX.
MIN.	.6	.4	.8	.8	.5	.4	.5	.3	.8	1.1	.4	.5	MIN.
ACFT	162.3	31.4	66.1	84.3	65.8	416.5	45.3	35.7	90.7	100.4	36.8	53.1	ACFT

WATERMASTER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM DISCHARGE	MAXIMUM GAGE HT	MAXIMUM MO	MAXIMUM DAY	MAXIMUM TIME	MINIMUM DISCHARGE	MINIMUM GAGE HT	MINIMUM MO	MINIMUM DAY	MINIMUM TIME	TOTAL ACRE-FEET
1.63	298.85	1.20	12	25	0133	.20	.04	2	12	0640	1188.40

STATION: ARROYO SECO

MEAN DAILY DISCHARGE in second-feet

STATION NO.	WATERMASTER YEAR
62250	1971–72

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	NO FLOW	NO FLOW	1.4	.3	1.6	.3	1.4	.0	.0	.1	.1	NO FLOW	1
2	NO FLOW	NO FLOW	.9	.6	1.1	.5	1.3	.0	.0	.1	.2	NO FLOW	2
3	NO FLOW	NO FLOW	.9	.4	1.2	.6	.8	.8	.0	.1	.1	NO FLOW	3
4	NO FLOW	NO FLOW	1.0	.5	1.3	.2	.6	1.1	NO FLOW	NO FLOW	.1	NO FLOW	4
5	NO FLOW	NO FLOW	1.0	1.1	1.1	.0	.4	.1	.2	NO FLOW	.1	NO FLOW	5
6	NO FLOW	NO FLOW	.8	1.1	1.1	.3	.3	.1	.4	NO FLOW	.1	NO FLOW	6
7	NO FLOW	NO FLOW	.8	1.1	1.3	.4	.3	.0	.1	NO FLOW	.0	NO FLOW	7
8	NO FLOW	NO FLOW	.8	1.2	1.4	.3	.3	.4	.0	NO FLOW	NO FLOW	NO FLOW	8
9	NO FLOW	NO FLOW	.8	1.1	1.4	.4	.2	1.3	NO FLOW	NO FLOW	NO FLOW	NO FLOW	9
10	NO FLOW	1.4	.8	1.1	1.2	1.5	.2	.3	.0	NO FLOW	NO FLOW	NO FLOW	10
11	NO FLOW	1.3	.8	1.1	1.3	.6	.1	.2	.2	NO FLOW	.0	NO FLOW	11
12	NO FLOW	1.2	.8	.4	1.3	.2	.0	.4	.2	NO FLOW	NO FLOW	NO FLOW	12
13	NO FLOW	1.2	.8	.4	1.3	.3	.1	.2	.2	.0	NO FLOW	.0	13
14	NO FLOW	1.1	.8	.3	1.3	.1	.1	.2	.2	.0	NO FLOW	NO FLOW	14
15	NO FLOW	1.1	.8	.3	1.1	.0	.1	.2	.1	.1	NO FLOW	NO FLOW	15
16	NO FLOW	1.1	.8	.9	1.1	.1	.2	.2	.1	.1	NO FLOW	NO FLOW	16
17	NO FLOW	1.2	.8	1.1	1.2	.0	.1	.2	.1	.1	NO FLOW	NO FLOW	17
18	NO FLOW	1.5	.9	.5	1.3	.0	.1	.0	NO FLOW	.0	NO FLOW	NO FLOW	18
19	NO FLOW	1.5	1.0	.2	1.4	.0	.0	.0	NO FLOW	.1	NO FLOW	NO FLOW	19
20	NO FLOW	1.7	1.0	.3	1.5	.0	.0	.0	NO FLOW	.0	NO FLOW	NO FLOW	20
21	NO FLOW	1.7	.9	.2	1.3	.0	.0	.0	NO FLOW	.0	NO FLOW	NO FLOW	21
22	NO FLOW	1.7	.8	.1	1.6	5.1	.0	.0	NO FLOW	NO FLOW	NO FLOW	NO FLOW	22
23	NO FLOW	1.6	.8	.0	1.3	4.8	.0	.7	.3	NO FLOW	NO FLOW	NO FLOW	23
24	NO FLOW	1.5	.8	1.3	1.2	35.0	.0	.0	.1	.0	NO FLOW	NO FLOW	24
25	NO FLOW	1.5	.9	.9	1.4	32.0	.0	.0	NO FLOW	.0	NO FLOW	NO FLOW	25
26	NO FLOW	1.5	.9	1.0	1.3	28.0	.0	.0	NO FLOW	.0	NO FLOW	NO FLOW	26
27	NO FLOW	2.0	.8	1.7	.9	28.1	.1	.0	NO FLOW	NO FLOW	NO FLOW	NO FLOW	27
28	NO FLOW	2.1	.8	1.4	1.2	18.1	.0	.0	NO FLOW	NO FLOW	NO FLOW	NO FLOW	28
29	NO FLOW	1.8	.8	1.1	1.2	9.2	.0	.0	NO FLOW	NO FLOW	NO FLOW	NO FLOW	29
30	NO FLOW	2.0	.8	1.1	1.0	4.2	.0		NO FLOW	.0	NO FLOW	.0	30
31	NO FLOW	1.6		1.2		2.2	.0		.1		.0		31
MEAN	0	1.1	.9	.8	1.3	5.6	.2	.2	.1	0	0	0	MEAN
MAX.	0	2.1	1.4	1.7	1.6	35.0	1.9	1.3	.4	.1	.2	0	MAX.
MIN.	0	0	.8	0	.9	0	0	0	0	0	0	0	MIN.
ACFT	0	66.2	52.9	47.5	74.8	342.1	14.1	12.7	4.9	2.0	1.5	.1	ACFT

WATERMASTER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM DISCHARGE	MAXIMUM GAGE HT	MAXIMUM MO	MAXIMUM DAY	MAXIMUM TIME	MINIMUM DISCHARGE	MINIMUM GAGE HT	MINIMUM MO	MINIMUM DAY	MINIMUM TIME	TOTAL ACRE-FEET
.85	72.27	1.14	12	24	2002	0	0	7	1	0000	617.80

APPENDIX A: MEAN DAILY DISCHARGE AT SURFACE RUNOFF STATIONS OPERATED BY THE WATERMASTER. 1971–72 WATERMASTER YEAR (Corrected)

STATION: [illegible] MEAN DAILY DISCHARGE in second-feet

STATION NO.	WATERMASTER YEAR
75135	1971–72

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.7	1.1	1.1	.1	.4	1.1	1.1	.1	.7	.7	.4	.6	1
2	.6	1.1	1.1	1.1	1.0	.7	1.1	.5	.7	.7	1.1	.7	2
3	.5	.7	1.1	1.1	1.0	1.1	1.1	.6	1.1	.5	1.0	.7	3
4	.5	1.0	1.0	.5	1.4	1.0	.5	.5	1.4	.5	.6	.9	4
5	.5	.5	1.0	.5	1.1	1.7	.7	.5	1.5	.5	1.0	.6	5
6	.5	1.1	.1	.6	1.1	1.1	.7	.4	1.1	.5	1.1	.5	6
7	.4	.5	.1	.1	1.1	1.1	.5	.4	1.1	.5	.9	1.1	7
8	.5	.5	.4	1.1	1.1	1.1	.4	.3	.6	.6	.8	1.2	8
9	.5	1.1	.1	.7	1.1	1.1	.6	.2	.5	.4	.5	.6	9
10	.4	.5	.1	.5	1.1	1.0	.6	.3	.7	.7	.6	.6	10
11	.4	.7	.1	.1	1.1	.3	.6	.4	.5	.4	.5	.6	11
12	.5	1.1	1.1	.6	.1	1.1	.4	.5	.5	.4	.7	.6	12
13	.4	1.1	1.1	.7	1.3	.7	.4	.5	.4	.8	.6	.4	13
14	.4	.5	1.1	.6	1.2	.6	.7	.4	.3	1.2	.8	.4	14
15	.4	.4	1.1	.6	1.3	.6	.7	.1	.3	1.2	.6	.4	15
16	.4	.1	.1	.4	1.1	.6	.6	.1	.3	1.2	.6	.4	16
17	.1	1.1	1.1	.1	1.1	1.7	1.5	.6	.4	.8	.6	.4	17
18	.1	.1	1.1	.1	1.1	1.7	1.0	.1	.4	.8	.5	.4	18
19	.1	1.1	1.1	.1	.6	1.2	1.1	.1	.3	2.0	.9	.5	19
20	.1	.4	.1	.1	.6	1.7	1.1	.1	.3	1.2	.9	.4	20
21	.4	.5	.1	.1	1.1	.7	.6	.1	.2	1.2	.9	.9	21
22	.1	1.1	1.1	.1	1.6	21.1	1.6	.0	.3	1.2	.9	.4	22
23	1.1	1.1	1.1	.6	1.1	1.1	1.6	.1	.4	1.2	.9	.4	23
24	1.2	.5	1.1	.6	1.1	55.2	1.4	.5	.3	.8	.9	.5	24
25	1.0	.5	1.1	.6	1.1	20.4	.7	.5	.3	.4	.9	.7	25
26	1.2	.7	.5	.6	1.2	5.6	.7	.7	.4	1.2	.8	.6	26
27	1.2	.8	1.1	.6	1.7	32.8	1.4	.8	.3	1.1	1.0	.4	27
28	1.3	.8	1.1	.6	1.4	12.4	1.4	1.0	.3	.7	1.2	.4	28
29	1.7	.5	1.1	.6	1.4	3.7	.4	.8	.3	.6	.9	.4	29
30	1.4	.7	.5	.6	1.3	3.6	.1		.8	1.0	.6	.4	30
31	1.7	.4		3.1		3.8	.5		.7		.5		31
MEAN	1.1	1.1	.6	.7	1.8	7.0	1.1	.4	.6	.9	.8	.7	MEAN
MAX.	4.2	6.3	3.1	4.9	4.1	55.2	3.5	1.0	3.0	2.0	1.2	4.1	MAX.
MIN.	1.0	.5	1.2	2.0	1.1	.5	.3	0	.2	.4	.5	.4	MIN.
ACFT	111.2	74.8	114.2	144.8	105.7	429.0	77.3	22.8	36.3	56.7	49.9	39.4	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
1.77	∠34.13	1.67	12	24	1221	0	0	2	22	1055	1290.10

STATION: EATON CREEK NEAR PASADENA MEAN DAILY DISCHARGE in second-feet

STATION NO.	WATERMASTER YEAR
75360	1971–72

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.4	.0	2.0	.7	.1	.2	4.0	.1	.1	.3	.6	.3	1
2	.4	.1	1.4	.6	.1	.3	3.6	.1	.1	.3	.6	.2	2
3	1.1	.1	1.2	.4	.1	.6	2.7	.0	.1	.3	.6	.2	3
4	.5	.1	1.2	1.1	.1	.7	2.1	.3	.2	.3	.6	.3	4
5	.0	.1	1.2	1.0	.1	.4	2.0	.7	.2	.3	.6	.2	5
6	.0	.1	1.2	.4	.1	.9	1.7	1.1	.2	.3	.6	.2	6
7	.0	.2	1.2	.6	.1	.7	1.4	.9	.2	.6	.6	.2	7
8	.0	.2	1.2	.6	.1	.8	1.2	.9	.2	.5	.6	.2	8
9	.0	.2	1.2	.6	.1	.9	1.1	.4	.2	.3	.6	.1	9
10	.0	.3	1.2	.6	.1	.8	1.0	.4	.2	.3	.6	.1	10
11	.0	.4	1.0	.6	.1	.7	.9	.3	.2	.3	.6	.1	11
12	.0	.2	1.0	.6	.2	.8	.9	.7	.2	.3	.6	.3	12
13	.0	.2	.9	.6	.2	.9	.9	.8	.2	.6	.6	.6	13
14	.0	.2	.9	.6	.2	.9	.8	.9	.2	.6	.6	.7	14
15	.0	.2	.9	.6	.5	.9	.7	.9	.2	.4	.6	.6	15
16	.0	.2	.9	.6	.6	.9	.7	.9	.2	.5	.6	.6	16
17	.0	.2	.9	.6	.6	.9	.6	1.0	.2	.6	.6	.6	17
18	.0	.2	1.1	.6	.6	.9	.6	1.0	.2	.7	.6	.6	18
19	.0	.2	1.2	.6	.6	1.0	.6	1.0	.3	.9	.6	1.0	19
20	.0	.1	1.1	.6	.6	.9	.5	.2	.3	.6	.9	1.0	20
21	.0	.1	1.0	.6	.6	.8	.4	0.6	.3	.6	1.1	.6	21
22	.0	.1	1.0	.6	.6	.9	.4	.0	.3	.6	1.1	.5	22
23	.0	.1	.9	.6	.6	.8	.4	.0	.3	.6	1.2	.3	23
24	.0	.1	.9	.6	.6	22.9	.3	.0	.3	.6	1.1	.3	24
25	.0	.1	1.0	.6	.6	12.2	.3	.0	.3	.6	1.0	.3	25
26	.0	.1	.9	.6	.6	11.9	.3	.0	.3	.6	.7	.4	26
27	.0	.1	.9	.6	.6	12.0	.2	.0	.3	.6	.5	.4	27
28	.0	.1	1.0	.5	.6	9.9	.2	.0	.3	.6	.3	.4	28
29	.0	.1	.9	.2	.6	8.7	.2	.0	.3	.6	.3	.5	29
30	.0	.2	.9	.2	.6	5.9	.2		.3	.6	.3	.5	30
31	.0	.2		.3		5.0	.1		.3		.3		31
MEAN	.1	.2	1.1	.6	.4	3.4	1.0	.7	.2	.5	.7	.4	MEAN
MAX.	1.1	.4	2.0	1.1	.6	22.9	4.0	6.8	.3	.9	1.2	1.0	MAX.
MIN.	0	0	.9	.2	.1	.2	.1	0	.1	.3	.3	.1	MIN.
ACFT	5.7	4.8	63.6	37.8	22.3	210.8	61.6	40.1	14.5	30.5	40.1	24.4	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
.77	∠3.25	1.65	12	24	1530	0	0	7	3	2402	561.00

APPENDIX A: MEAN DAILY DISCHARGE AT SURFACE RUNOFF STATIONS OPERATED BY THE WATERMASTER. 1971–72 WATERMASTER YEAR (Corrected)

STATION: EATON WASH

MEAN DAILY DISCHARGE
in second-feet

STATION NO.	WATERMASTER YEAR
75300	1971–72

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.1	.0	.5	.5	1.3	1.8	.0	.1	.2	.1	.1	.2	1
2	1.4	.2	.3	.4	1.2	4.3	.0	.1	.3	.1	.6	.3	2
3	.1	.3	.3	.4	1.0	2.5	.1	.1	.3	.2	.1	.1	3
4	.1	.4	.2	.5	1.3	2.4	.0	.1	.2	.2	.3	.1	4
5	.1	.4	.2	.4	.8	2.2	.0	.5	.1	.2	.2	.1	5
6	.1	.3	.1	.1	1.0	2.0	.0	.1	.2	.2	.1	.4	6
7	.1	.3	.1	.2	.6	1.9	.1	.1	.2	.1	.1	.8	7
8	.0	.4	.2	.2	1.4	1.9	.0	.2	.2	.0	.1	.8	8
9	.1	.3	.1	.1	1.1	2.0	.1	.2	.2	.0	.1	.1	9
10	.1	.3	.1	.1	.8	.4	.1	.2	.3	.1	.2	.1	10
11	.1	.3	.1	.1	11.1	.2	.1	.2	.3	.1	.2	.0	11
12	.1	.4	.1	.1	2.7	.1	.1	.1	.2	.1	.2	.1	12
13	.1	.3	.2	.2	2.2	1.0	.1	.1	.3	.1	.1	.2	13
14	.1	.2	.4	.1	1.9	.1	.1	.2	.3	.2	.1	.1	14
15	.2	.3	.3	.1	1.9	.1	.0	.2	.4	.0	.2	.1	15
16	.2	.3	.4	2.7	2.0	.2	.1	.2	.2	.0	.3	.2	16
17	.1	.5	.3	.3	1.9	.1	.1	.3	.2	.1	.1	.1	17
18	.1	.5	.3	.3	2.2	.1	.0	.4	.1	.3	.1	.1	18
19	.1	.4	.3	.3	2.4	.0	.0	.1	.1	1.1	.6	.1	19
20	.1	.4	.3	.1	2.5	.2	.1	.1	.2	.1	.1	.4	20
21	.2	.3	.3	.0	2.4	.4	.0	.1	.2	.1	.1	.2	21
22	.2	.5	.3	.0	2.0	17.7	.0	.1	.2	.1	.1	.3	22
23	.2	.5	.3	.0	2.0	1.6	.0	.2	.4	.0	.1	.1	23
24	.1	.5	.2	1.4	2.2	43.8	.0	.2	.2	.1	.2	.1	24
25	.2	.6	.3	.2	2.2	19.1	.1	.2	.1	.1	.2	.1	25
26	.1	.8	.3	.1	2.0	.4	.0	.2	.1	.1	.3	.1	26
27	.2	.6	.2	.1	1.4	27.0	.1	.1	.2	.0	.2	.2	27
28	.1	.6	.2	.3	1.9	7.6	.1	.3	.2	.0	.1	.3	28
29	.2	.7	.3	.3	1.7	.1	.1	.3	.2	.0	.1	.1	29
30	.1	.6	.3	.3	1.6	.1	.1		.4	.0	.1	.1	30
31	.1	1.0		1.1		.0	.1		.2		.2		31
MEAN	.2	.4	.2	.4	2.0	4.6	.1	.2	.2	.1	.2	.2	MEAN
MAX.	1.4	1.0	.5	2.7	11.1	43.8	.1	.5	.4	1.1	.6	.8	MAX.
MIN.	0	0	.1	0	.6	0	0	.1	.1	0	.1	0	MIN.
ACFT	10.0	25.5	14.6	21.8	121.7	281.2	3.5	10.8	14.0	7.8	11.0	11.5	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
.73	194.72	.98	12	24	1119	0	0	8	21	2243	533.40

STATION: FLINT WASH

MEAN DAILY DISCHARGE
in second-feet

STATION NO.	WATERMASTER YEAR
62190	1971–72

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.3	.4	.2	.3	.6	.7	1.7	.4	.1	.2	1.5	.0	1
2	.2	.4	.2	.3	.4	3.3	1.2	.4	.1	.1	1.5	.1	2
3	.2	.4	.2	.2	.3	1.4	1.0	.3	.1	.5	1.4	.3	3
4	.2	.3	.2	.3	.4	.8	.5	.4	.1	.4	1.6	.3	4
5	.2	.3	.2	.2	1.0	.8	.6	.7	.0	.5	1.5	.4	5
6	.2	.4	.2	.3	1.0	.6	.5	.5	.0	.5	1.6	.2	6
7	.2	.3	.2	.3	1.0	1.0	.5	.4	NO FLOW	.5	1.6	5.8	7
8	.2	.4	.2	.3	.4	.4	.5	.4	NO FLOW	.6	1.7	.6	8
9	.2	.7	.2	.4	.9	.8	.6	.3	NO FLOW	.7	1.7	.3	9
10	.2	.5	.3	.3	.9	.8	.5	.3	NO FLOW	.6	1.6	.3	10
11	.3	.5	.2	.3	8.0	.6	.5	.3	NO FLOW	.7	1.6	.1	11
12	.3	.5	.2	.2	21.0	1.0	.5	.3	NO FLOW	1.1	1.5	.0	12
13	.3	.3	.3	.3	1.4	1.9	.5	.3	NO FLOW	.7	1.5	.0	13
14	.3	.6	.3	.3	1.4	.6	.7	.3	NO FLOW	1.3	1.6	.1	14
15	.3	.3	.3	.3	1.4	.8	.5	.3	.3	1.6	1.3	.0	15
16	.3	.3	.3	0.3	1.4	.8	.5	.3	NO FLOW	1.7	1.4	.0	16
17	.2	.3	.3	.1	1.4	.8	.7	.3	NO FLOW	1.3	1.2	.0	17
18	.3	.3	.3	.2	1.3	.8	.7	.3	NO FLOW	1.7	1.2	.0	18
19	.3	.3	.3	.4	1.3	.8	.4	.3	NO FLOW	2.4	1.8	.1	19
20	.3	.4	.3	.4	1.3	.8	.4	.2	NO FLOW	2.2	1.3	.1	20
21	.3	.5	.3	.8	1.3	.8	.4	.2	NO FLOW	2.2	.7	.1	21
22	.4	.3	.3	.2	1.3	43.5	.4	.2	NO FLOW	2.3	.3	.5	22
23	.3	.3	.3	.3	1.4	2.7	.4	.2	NO FLOW	2.2	.2	.2	23
24	.3	.3	.3	54.5	1.4	143.8	.4	.1	NO FLOW	2.2	.2	.3	24
25	.3	.4	.3	.4	1.5	90.1	.3	.1	NO FLOW	2.2	.3	.3	25
26	.3	.5	.3	.7	1.3	5.2	.3	.1	NO FLOW	2.0	.3	.3	26
27	.3	1.4	.3	.7	1.3	78.8	.3	.1	NO FLOW	2.0	.3	.5	27
28	.3	.5	.0	.6	1.3	22.8	.2	.1	NO FLOW	1.4	.2	.2	28
29	.3	.6	.0	.6	1.3	3.8	.1	.1	NO FLOW	1.5	.0	.1	29
30	.3	.5	.3	.6	1.3	2.4	.4		NO FLOW	1.3	.0	.1	30
31	.4	.5		.6		1.8	.4		.1		.1		31
MEAN	.3	.4	.2	2.5	2.0	13.4	.5	.3	0	1.3	1.0	.4	MEAN
MAX.	.4	1.4	.3	54.5	21.0	143.8	1.7	.7	.3	2.4	1.8	5.8	MAX.
MIN.	.2	.3	0	.1	.3	.7	.1	.1	0	.1	0	0	MIN.
ACFT	17.0	27.3	14.6	152.7	121.0	826.5	33.1	16.2	1.6	77.6	64.5	23.0	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
1.86	652.91	3.45	10	24	1219	0	0	9	28	1204	1375.10

APPENDIX A: MEAN DAILY DISCHARGE AT SURFACE RUNOFF STATIONS OPERATED BY THE WATERMASTER. 1971–72 WATERMASTER YEAR (Corrected)

MEAN DAILY DISCHARGE in second feet

STATION: [illegible]

STATION NO.	WATERMASTER YEAR
[illegible]	1971-72

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	[illegible]	[illegible]	[illegible]	1.1	1.1	[illegible]	[illegible]	1.5	1.2	1.0	1.1	1.3	1
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.7	[illegible]	[illegible]	.7	[illegible]	1.1	2
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.7	[illegible]	[illegible]	.8	1.0	1.2	3
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.1	4
5	[illegible]	[illegible]	[illegible]	[illegible]	1.1	[illegible]	1.1	[illegible]	.8	[illegible]	1.0	1.0	5
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.0	1.1	1.0	6
7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.1	.7	[illegible]	[illegible]	[illegible]	7
8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.1	[illegible]	.8	[illegible]	1.1	1.8	8
9	[illegible]	[illegible]	[illegible]	1.7	[illegible]	[illegible]	1.1	1.1	.8	[illegible]	1.6	1.1	9
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.1	[illegible]	1.1	.8	1.0	2.3	.9	10
11	[illegible]	[illegible]	[illegible]	[illegible]	1.7	[illegible]	[illegible]	1.1	.8	[illegible]	2.2	.8	11
12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.3	.8	1.0	2.5	.9	12
13	[illegible]	[illegible]	[illegible]	[illegible]	1.1	[illegible]	[illegible]	1.1	.9	[illegible]	2.3	1.0	13
14	[illegible]	[illegible]	[illegible]	[illegible]	1.1	[illegible]	[illegible]	1.1	.8	[illegible]	2.1	.9	14
15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.5	[illegible]	1.1	.8	1.0	2.8	[illegible]	15
16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.7	1.1	1.1	[illegible]	[illegible]	1.7	1.2	16
17	[illegible]	[illegible]	[illegible]	1.1	1.1	[illegible]	1.2	1.1	[illegible]	[illegible]	1.9	1.2	17
18	[illegible]	[illegible]	[illegible]	1.1	1.1	[illegible]	1.1	1.1	[illegible]	1.2	1.7	1.1	18
19	[illegible]	[illegible]	[illegible]	1.1	[illegible]	[illegible]	1.1	1.1	[illegible]	11.7	[illegible]	1.1	19
20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.9	.8	.9	1.2	20
21	[illegible]	[illegible]	[illegible]	1.0	[illegible]	1.4	1.1	1.0	.8	[illegible]	.9	1.2	21
22	[illegible]	[illegible]	[illegible]	1.1	[illegible]	[illegible]	1.1	1.1	[illegible]	1.1	[illegible]	1.7	22
23	[illegible]	[illegible]	[illegible]	1.1	[illegible]	[illegible]	1.1	[illegible]	1.1	[illegible]	1.1	1.2	23
24	[illegible]	.7	.7	[illegible]	[illegible]	1.1	[illegible]	1.3	[illegible]	[illegible]	1.0	1.0	1.3	24
25	[illegible]	.7	[illegible]	1.5	[illegible]	.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.8	1.1	25
26	[illegible]	[illegible]	[illegible]	[illegible]	1.2	[illegible]	7.8	1.8	1.1	[illegible]	1.1	1.0	1.3	26
27	[illegible]	[illegible]	.7	1.1	[illegible]	[illegible]	[illegible]	[illegible]	1.3	.8	1.2	1.2	1.3	27
28	[illegible]	[illegible]	.7	[illegible]	1.1	.1	[illegible]	1.3	1.3	1.0	1.2	1.0	1.2	28
29	[illegible]	.8	[illegible]	1.1	.8	[illegible]	1.0	1.5	1.3	.8	1.2	1.0	1.3	29
30	[illegible]	[illegible]	.8	1.1	[illegible]	.3	.7	1.2		.9	1.1	1.1	1.3	30
31	[illegible]	[illegible]		[illegible]		.7	1.4		[illegible]		1.1		31
MEAN	[illegible]	1.1	1.3	[illegible]	[illegible]	12.8	1.2	1.1	.9	1.4	1.4	1.4	MEAN
MAX.	[illegible]	[illegible]	[illegible]	[illegible]	20.8	[illegible]	1.8	1.5	1.3	11.7	2.8	8.9	MAX.
MIN.	.7	.6	[illegible]	.8	.1	.1	.4	[illegible]	.7	.7	.8	.8	MIN.
ACFT	[illegible]	[illegible]	77.4	[illegible]	[illegible]	[illegible]	72.3	65.5	54.1	[illegible]	84.7	65.0	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
2.23	703.15	1.82	12	24	1221	0	0	6	21	0752	1632.60

MEAN DAILY DISCHARGE in second-feet

STATION: SECO DRAIN

STATION NO.	WATERMASTER YEAR
62150	1971–72

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.1	.3	1.5	.7	3.0	2.4	1.3	.8	.4	.3	.4	.4	1
2	.3	.6	2.0	1.0	3.0	2.4	1.3	.5	.4	.3	.3	.4	2
3	.1	.7	1.8	.7	3.0	.0	.4	.6	.4	.5	.1	.3	3
4	.0	.7	1.6	.7	3.3	.0	.6	.4	.4	.6	.2	.4	4
5	.0	.7	1.2	.7	3.0	.3	.6	.3	.7	.7	.2	.5	5
6	.1	.8	.9	.3	3.0	.3	.6	.2	.7	.7	.1	.6	6
7	.4	1.0	.9	.3	3.0	.3	.6	.3	.5	.7	.1	3.7	7
8	.2	1.0	.8	.2	2.6	.3	.6	.3	.7	.7	.2	.5	8
9	.3	1.0	1.0	.3	2.5	.3	.6	.3	1.0	.7	.1	.2	9
10	.4	1.0	1.0	.2	2.5	.3	.8	.1	.6	.7	.2	.3	10
11	.3	1.0	.8	.3	2.8	.3	1.0	.1	.3	.6	.2	.3	11
12	.5	.8	1.3	.3	7.0	.3	1.0	.1	.3	.6	.2	.3	12
13	.5	.7	1.6	.3	5.9	.3	1.1	.1	.3	.6	.3	.3	13
14	.5	.7	1.0	.5	5.9	.3	1.3	.1	.4	.5	.3	.2	14
15	.5	.7	1.0	.4	5.9	.3	1.2	.1	.4	.4	.3	.4	15
16	.5	.7	1.0	.5	5.9	.3	.7	.3	.6	.4	.4	.4	16
17	.4	.7	1.0	.4	5.9	.3	.7	.4	.9	.4	.3	.3	17
18	[illegible]	.7	1.0	1.3	5.9	.3	.8	.4	.6	.5	.3	.4	18
19	.4	.7	.8	.8	5.9	.3	.8	.4	.6	1.9	.2	.6	19
20	.3	.7	1.3	.7	5.9	.3	.7	.4	.6	.6	.1	.6	20
21	.4	.7	1.0	.7	5.9	.3	.7	.3	[illegible]	.7	.1	.6	21
22	.4	.8	.7	.7	5.9	15.2	.7	.3	.4	.7	.2	.5	22
23	.5	.8	.7	.7	5.9	1.0	.7	.3	.3	.7	.2	.4	23
24	.5	.7	.7	5.7	5.9	39.6	.7	.4	.3	.6	.3	.3	24
25	.7	1.0	.7	4.0	5.9	10.3	.7	.4	.4	.6	.3	.3	25
26	.7	1.3	.7	3.7	5.9	2.5	.7	.4	.4	.6	.3	.3	26
27	.6	1.1	.7	3.2	5.9	26.2	.7	.3	.4	.7	.3	.3	27
28	.5	1.0	.7	3.0	5.9	8.4	.7	.4	.4	.8	.3	.3	28
29	.4	1.0	.7	3.2	5.9	2.5	.7	.4	.3	.7	.3	.3	29
30	.4	1.5	.7	3.2	5.3	1.6	.7		.3	.7	.4	.3	30
31	.5	1.1		3.0		1.5	.7		.3		.5		31
MEAN	.4	.8	1.0	1.3	4.8	3.8	.8	.3	.5	.6	.3	.5	MEAN
MAX.	.7	1.5	2.0	5.7	7.0	39.6	1.3	.8	1.0	1.9	.5	3.7	MAX.
MIN.	0	.3	.7	.2	2.5	0	.6	.1	.3	.3	.1	.2	MIN.
ACFT	22.5	21.3	25.5	82.3	245.2	234.4	48.6	19.1	30.1	38.1	15.7	29.4	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
1.26	161.52	1.21	12	24	1221	0	0	7	3	0024	915.40

APPENDIX A: MEAN DAILY DISCHARGE AT SURFACE RUNOFF STATIONS OPERATED BY THE WATERMASTER. 1971–72 WATERMASTER YEAR (Corrected)

STATION: WEST ALTADENA

MEAN DAILY DISCHARGE
in second-feet

STATION NO.	WATERMASTER YEAR
62985	1971–72

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.1	.2	.2	.1	.0	.1	.1	.2	.1	.6	.3	.1	1
2	.8	.3	.1	.2	1.0	.6	.2	.1	.0	.5	.3	.3	2
3	.3	.4	.2	.3	.0	.6	.1	.0	.2	.5	.3	.4	3
4	.3	.6	.2	.3	.0	.1	.6	.1	.2	.6	.3	.4	4
5	.3	.7	.2	.3	.0	.0	.4	.2	.1	.6	.4	.4	5
6	.2	.8	.2	.3	.0	.0	.5	.1	.2	.6	.4	.3	6
7	.1	.7	.2	.5	.0	.0	.4	.0	.1	.6	.6	.8	7
8	.1	.6	.2	.2	.0	.0	.2	.0	.1	.4	.5	.5	8
9	.1	.5	.2	.2	.0	.0	.3	.0	.0	.1	.4	.3	9
10	.1	.6	.1	.3	.0	.0	.4	.0	.1	NO FLOW	.2	.2	10
11	.1	.6	.2	.2	.6	.0	.3	.1	.2	.0	.3	.2	11
12	.0	.6	.2	.2	1.1	.1	.5	.0	.1	NO FLOW	.3	.2	12
13	.1	.6	.2	.2	.0	.4	.5	.0	.2	NO FLOW	.3	.2	13
14	.6	.5	.3	.7	.0	.0	.4	.0	.0	.0	.3	.3	14
15	.8	.6	.3	.5	.0	.0	.6	.0	.1	.1	.3	.2	15
16	.8	.4	.1	.4	.0	.1	.7	.0	.1	.1	.3	.2	16
17	.7	.4	.1	.4	.0	.1	.7	.0	.3	NO FLOW	.2	.2	17
18	.8	.3	.1	.3	.0	.0	.7	.0	.2	.4	.2	.3	18
19	.7	.2	.0	.4	.3	.0	.5	.0	.2	.3	.4	.4	19
20	.7	.4	.0	.4	.0	.0	.6	.0	.2	.2	.1	.8	20
21	.8	.4	.1	.3	.1	.7	.5	.1	.2	.2	.1	.8	21
22	.2	.5	.1	.3	.1	6.7	.5	.0	.3	.1	.1	.6	22
23	.0	.4	.1	.3	.0	.4	.7	.0	.2	.1	.1	.3	23
24	.1	.2	.2	4.2	.0	17.8	.8	.0	.3	.1	.1	.4	24
25	.1	.5	.1	.2	.0	6.5	.6	.0	.2	NO FLOW	.1	.2	25
26	.1	.4	.1	.1	.0	.6	.3	.1	.3	.1	.3	.2	26
27	.4	.4	.1	.1	.0	4.7	.2	.0	.4	.1	.4	.4	27
28	.4	.4	.0	.2	.1	2.5	.7	.0	.2	.1	.4	.6	28
29	.3	.4	.1	.0	.1	.6	.6	.0	.0	.1	.5	.4	29
30	.8	.5	.1	.1	.0	.2	.5		.5	.1	.3	.3	30
31	.2	.4		.1		.1	.6		.5		.2		31
MEAN	.4	.5	.1	.4	.1	1.6	.5	0	.2	.2	.3	.4	MEAN
MAX.	.8	.9	.3	4.2	1.1	17.8	.8	.2	.5	.6	.6	.8	MAX.
MIN.	0	.2	0	0	0	0	.1	0	0	0	.1	.1	MIN.
ACFT	21.8	29.7	8.5	24.5	7.0	98.0	28.8	2.1	11.5	13.3	17.9	21.4	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
.39	86.26	1.04	12	24	1204	0	0	7	1	0000	282.50

APPENDIX B

GROUND WATER EXTRACTION DATA FOR INDIVIDUAL WELLS

APPENDIX B GROUND WATER EXTRACTION DATA FOR INDIVIDUAL WELLS – In acre-feet

WESTERN UNIT (MONK HILL BASIN)

(PASADENA SUBAREA)

APPENDIX B: (Continued)

STATE WELL NUMBER	OWNERS DESIG-NATION	PRODUCTION 1972 JULY	AUG	SEPT	OCT	NOV	DEC	1973 JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
EAST PASADENA WATER COMPANY														
1N/11W-30J01S	7	35.11	23.70	10.99	3.81	.90	.15	1.04	3.66	.17	2.22	6.52	32.07	120.34
1N/11W-30K01S	8	44.09	33.89	21.06	10.62	2.98	2.57	1.22	.25	22.75	24.05	28.03	57.32	248.83
1N/11W-30Q03S	1	2.61	1.63	0	.10	.07	.04	0	0	0	0	0	0	4.45
TOTALS		81.81	59.22	32.05	14.53	3.95	2.76	2.26	3.91	22.92	26.27	34.55	89.39	373.62
H E HUNTINGTON LIBRARY AND ART GALL														
1N/12W-34H01S	CANYN	12.36	9.96	2.59	0	2.44	.11	2.13	2.36	1.06	0	2.11	4.98	40.10
1N/12W-35C01S	ORLOO	44.93	61.86	39.31	25.19	10.84	5.52	4.73	0	1.19	14.99	34.34	55.20	298.10
TOTALS		57.29	71.82	41.90	25.19	13.28	5.63	6.86	2.36	2.25	14.99	36.45	60.18	338.20
KINNELOA IRRIGATION DISTRICT														
1N/12W-13E03S	3	27.92	23.92	19.30	9.97	3.69	6.18	7.89	6.05	.85	7.13	16.41	16.42	145.73
1N/12W-13L01S	WGNER	.07	.12	.24	.13	.10	.01	0	0	0	.04	.05	.05	.81
TOTALS		27.99	24.04	19.54	10.10	3.79	6.19	7.89	6.05	.85	7.17	16.46	16.47	146.54
MIRA LOMA MUTUAL WATER COMPANY														
1N/11W-07N01S	GLEN	5.58	4.75	4.49	4.66	1.13	1.04	.33	1.49	2.99	4.35	.36	2.48	33.65
1N/11W-07N02S	BROWN	4.71	4.77	3.60	2.18	.89	1.14	.49	0	0	2.45	4.68	5.50	30.41
1N/11W-18C01S	SHAW	1.01	.79	1.06	.97	.16	0	0	0	0	0	0	0	3.99
TOTALS		11.30	10.31	9.15	7.81	2.18	2.18	.82	1.49	2.99	6.80	5.04	7.98	68.05
MONROVIA, CITY OF														
1N/11W-30H01S	CHAP6	109.42	112.41	110.03	111.54	112.55	116.56	92.33	7.81	9.61	38.63	91.70	108.29	1020.88
OSBORN COMPANY														
1N/12W-13H01S	FARPT	3.23	3.60	2.84	2.84	1.67	.98	.61	.54	.44	1.11	1.90	2.44	22.20
PASADENA, CITY OF														
1N/11W-30D04S	NCHAP	244.95	134.45	232.29	197.53	234.51	174.77	72.98	0	0	39.63	82.77	106.48	1520.36
1N/12W-20A01S	SUNST	91.58	156.89	164.06	154.21	41.84	78.27	118.07	64.83	18.90	25.69	80.28	76.68	1071.30
1N/12W-20B01S	COPO3	128.85	198.54	216.78	199.01	52.14	0	89.46	2.24	0	66.96	0	65.46	1019.44
1N/12W-21K01S	GARFD	150.18	156.57	174.19	160.57	151.71	114.53	95.95	0	.10	129.09	85.16	65.96	1284.01
1N/12W-21K02S	VILLA	262.73	258.82	255.52	246.17	280.73	45.27	0	0	0	0	0	0	1349.24
1N/12W-23G01S	CRAIG	172.32	157.32	165.29	86.28	72.95	53.92	121.62	0	0	.27	126.18	101.61	1057.76
1N/12W-25B01S	JOAN	35.18	0	0	0	0	0	47.47	0	.17	0	.17	149.97	232.96
1N/12W-26C01S	WDRY	.11	119.02	185.74	85.81	86.00	51.02	68.03	0	0	60.98	108.34	125.74	890.79
1N/12W-33G02S	OHIO5	0	0	0	.03	0	0	0	.03	0	0	0	0	.06
TOTALS		1085.90	1181.61	1393.87	1129.61	919.88	517.78	613.58	67.10	19.17	322.62	482.90	691.90	8425.92
ROYAL LAUNDRY AND DRY CLEANING CO														
1N/12W-28N01S	SWELL	12.27	14.39	12.60	14.24	12.84	15.58	14.19	12.52	13.88	12.29	13.24	12.59	160.63
SAN GABRIEL COUNTY WATER DISTRICT														
1N/12W-36E01S	VN004	.35	0	0	0	0	0	0	0	0	0	0	0	.35
1N/12W-36E02S	VN003	120.67	122.06	114.33	108.44	111.72	115.69	113.43	99.26	57.05	30.76	45.42	57.15	1095.98
TOTALS		121.02	122.06	114.33	108.44	111.72	115.69	113.43	99.26	57.05	30.76	45.42	57.15	1096.33
SUNNY SLOPE WATER COMPANY														
1N/12W-36A01S	6	217.53	171.26	33.56	0	0	0	0	0	0	14.80	72.07	112.75	621.97
1N/12W-36H01S	1	17.35	131.91	104.16	83.75	78.64	77.27	35.24	96.66	79.14	89.36	61.43	86.46	941.37
TOTALS		234.88	303.17	137.72	83.75	78.64	77.27	35.24	96.66	79.14	104.16	133.50	199.21	1563.34

EASTERN UNIT (SANTA ANITA SUBAREA)

ARCADIA, CITY OF														
1N/11W-21G02S	OG01A	201.25	154.07	30.49	2.08	.48	115.28	175.50	159.97	180.49	48.43	189.23	154.49	1411.76
1N/11W-21G05S	OG005	39.90	14.00	0	.37	.33	0	.25	0	.34	0	4.66	17.01	77.06
1N/11W-21H02S	OG02A	193.86	176.38	177.05	154.92	173.58	184.00	174.68	154.00	179.61	44.72	84.20	91.16	1786.16
1N/11W-21H03S	OG006	56.13	76.68	78.90	50.62	71.60	82.14	75.86	66.45	80.96	11.77	13.46	23.37	687.94
TOTALS		491.14	421.13	286.44	207.99	245.99	381.42	426.29	380.42	441.40	104.92	291.75	286.03	3964.92
SIERRA MADRE, CITY OF														
1N/11W-21C02S	4	0	0	29.11	86.29	0	0	0	21.14	0	1.65	98.04	90.98	327.21
1N/11W-21C03S	3	172.80	139.80	22.57	0	78.56	18.97	0	5.56	0	86.83	2.23	.98	528.30
1N/11W-21C06S	5	164.28	140.12	79.78	0	27.63	89.44	92.36	25.86	27.84	17.64	7.28	3.82	676.05
1N/11W-21C07S	6	0	10.43	83.29	95.55	0	.54	0	0	0	14.62	60.62	124.36	389.41
TOTALS		337.08	290.35	214.75	181.84	106.19	108.95	92.36	52.56	27.84	120.74	168.17	220.14	1920.97
GRAND TOTALS		4387.26	4139.15	3610.24	2905.70	2347.52	2051.68	2071.18	1355.54	1372.59	1952.09	2872.70	3368.70	32434.35

APPENDIX C

DESTROYED WELLS

The Metropolitan Water District of Southern California	1N/12W-06N03
The Metropolitan Water District of Southern California	1N/13W-02A02
Pasadena, City of	1N/11W-30Q02
Pasadena, City of	1N/12W-25A01
Sunny Slope Water Company	1N/12W-36H02

APPENDIX D

WATER RIGHT LEASES

AND

PROPOSED PROGRAM FOR SPREADING CREDIT CERTIFICATION BY LACFCD

LEASE OF WATER RIGHTS NO. 9085

This lease is made and entered into this 12th day of June, 1973, between CANYON MUTUAL WATER COMPANY, hereinafter sometimes referred to as Water Company, and the CITY OF PASADENA, a municipal corporation, hereinafter sometimes referred to as the City.

This lease is made and based upon the following facts:

Both parties to this agreement own adjudicated water rights in the Raymond Basin as original parties to the action entitled City of Pasadena v. City of Alhambra, Los Angeles Superior Court No. Pasadena C-1323, or as a successor-in-interest to such parties.

Said rights, as originally adjudicated, have been modified and Water Company now owns rights designated as Decreed Right 1955 giving Water Company the right to pump or otherwise extract 127 acre feet of water annually from the Western Unit of the Raymond Basin.

The Water Company has not exercised its rights to the fullest extent possible and as of May 31, 1973, Water Company has available for lease 110 acre feet of water in said Western Unit for the fiscal year ending June 30, 1973.

The Water Company desires to lease 110 acre feet of its Decreed Right 1955 available to be pumped during the 1972-1973 fiscal year to the City for the consideration set forth below.

The City desires to lease 110 acre feet of said Decreed Right 1955.

NOW, THEREFORE, the parties agree as follows:

1. Water Company does hereby lease to the City 110 acre feet of its Decreed Right 1955 available to be pumped from the Western Unit of the Raymond Basin during the fiscal year ending June 30, 1973.

2. The first 110 acre feet of water pumped or otherwise extracted from the Western Unit of the Raymond Basin by the City between the date hereof and June 30, 1973, shall be deemed to be in exercise of the portion of the Decreed Right 1955 of Water Company leased hereby.

3. Any water pumped or otherwise extracted from said Western Unit by the City in excess of the first 110 acre feet pumped or otherwise extracted from said Western Unit after the date of this agreement shall not be and shall not be deemed to be in exercise of any rights of Water Company.

4. The City agrees to pay to Water Company within 60 days after the date of this agreement.

5. Water Company warrants that it has the authority to lease said water rights and that the City will have the right to pump or otherwise extract from the Western Unit of the Raymond Basin 110 acre feet of water between the date of this agreement and June 30, 1973.

Without limiting Water Company's liability under this warranty, Water Company agrees to refund all payments made under paragraph 4 if the City is prevented by any court of competent jurisdiction from exercising the rights leased hereunder, or to refund such payments on a pro rata basis if such lease is partially set aside.

6. The City warrants that it will use the said rights leased hereby only in a proper and timely manner by pumping or otherwise extracting water from said Western Unit.

7. The parties hereby will cooperate to the extent necessary to properly advise and inform the Watermaster charged with the administration of the judgment in the above-entitled action of the actions of the parties and to take such other action reasonably required to implement and effectuate this agreement.

CANYON MUTUAL WATER COMPANY

By _____

CITY OF PASADENA,
a municipal corporation

By _____
Chairman of the Board of Directors
of the City of Pasadena

ATTEST:

_____
City Clerk

LEASE OF WATER RIGHTS NO. 9084

This lease is made and entered into this 12th day of June, 1973, between KINNELOA IRRIGATION DISTRICT, hereinafter sometimes referred to as the District, and the CITY OF PASADENA, a municipal corporation, hereinafter sometimes referred to as the City.

This lease is made and based upon the following facts:

Both parties to this agreement own adjudicated water rights in the Raymond Basin as original parties to the action entitled City of Pasadena v. City of Alhambra, Los Angeles Superior Court No. Pasadena C-1323, or as a successor-in-interest to such parties.

Said rights, as originally adjudicated, have been modified and the District now owns rights designated as Decreed Right 1955 giving the District the right to pump or otherwise extract 229 acre feet of water annually from the Western Unit of the Raymond Basin.

The District has not exercised its rights to the fullest extent possible and as of May 31, 1973, the District has available for lease 128 acre feet of water in said Western Unit for the fiscal year ending June 30, 1973.

The District desires to lease 128 acre feet of its Decreed Right 1955 available to be pumped during the 1972-1973 fiscal year to the City for the consideration set forth below.

The City desires to lease 128 acre feet of said Decreed Right 1955.

NOW, THEREFORE, the parties agree as follows:

1. The District does hereby lease to the City 128 acre feet of its Decreed Right 1955 available to be pumped from the Western Unit of the Raymond Basin during the fiscal year ending June 30, 1973.

2. The first 128 acre feet of water pumped or otherwise extracted from the Western Unit of the Raymond Basin by the City between the date hereof and June 30, 1973, shall be deemed to be in exercise of the portion of the Decreed Right 1955 of the District leased hereby.

3. Any water pumped or otherwise extracted from said Western Unit by the City in excess of the first 128 acre feet pumped or otherwise extracted from said Western Unit after the date of this agreement shall not be and shall not be deemed to be in exercise of any rights of the District.

4. The City agrees to pay to the District within 60 days after the date of this agreement.

5. The District warrants that it has the authority to lease said water rights and that the City will have the right to pump or otherwise extract from the Western Unit of the Raymond Basin 128 acre feet of water between the date of this agreement and June 30, 1973.

Without limiting the District's liability under this warranty, the District agrees to refund all payments made under paragraph 4 if the City is prevented by any court of competent jurisdiction from exercising the rights leased hereunder, or to refund such payments on a pro rata basis if such lease is partially set aside.

6. The City warrants that it will use the said rights leased hereby only in a proper and timely manner by pumping or otherwise extracting water from said Western Unit.

7. The parties hereby will cooperate to the extent necessary to properly advise and inform the Watermaster charged with the administration of the judgment in the above-entitled action of the actions of the parties and to take such other action reasonably required to implement and effectuate this agreement.

KINNELOA IRRIGATION DISTRICT

By _____

ATTEST:

_____
City Clerk

CITY OF PASADENA,
a municipal corporation

By _____
Chairman of the Board of Directors
of the City of Pasadena

3.

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
WATER CONSERVATION DIVISION
[illegible] 16TH TERMINAL ANNEX
[illegible] LOS ANGELES, CALIFORNIA 90012
TELEPHONE 223-2111

TOM H. STAUFFER
CIVIL ENGINEER

IRVING SHERMAN
ASSISTANT DIVISION ENGINEER

August [illegible], 1973

FILE NO 2-19.55
Water Spread
Raymond Basin

Mr. [illegible] I. Gould
Chief, Operations Branch
Southern District and Deputy Watermaster
Department of Water Resources
P.O. Box [illegible]
Los Angeles, CA 90053

Dear Mr. Gould:

Reference is made to your letter dated July 23, 1973 regarding the amount of water diverted for spreading by the parties in the Raymond Basin.

This is the first reporting period regarding the program for spreading and recapturing surface water diversion in the Raymond Basin. The following tabulation indicates the amount of water diverted for spreading during the months of May and June 1973, by the various parties in the basin as reported by your office and also the amount of water that bypassed our Arroyo Seco and Eaton Wash spreading facilities during the same period:

1972-73
Metered Diversions for Spreading in Raymond Basin

Party	Amount Diverted in Acre-Feet		
	May	June	Total
Kinneloa Irrigation District	0.16	0.18	0.34
Las Flores Water Company	0	0	0
Lincoln Avenue Water Company	0	24.70	24.70
Pasadena, City of	147.72	52.07	199.79
Rubio Canyon Land and Water Association	0	13.34	13.34
Total			238.17

All of the diversions by the various parties are located upstream of our Arroyo Seco Spreading Grounds and Eaton Wash Spreading Grounds, and all water that is diverted is spread, if no water passes by the two spreading facilities. During the months of May and June 1973, no water bypassed the spreading facilities and the entire 238.17 acre-feet of diverted water was spread in the stream beds above the spreading grounds.

The above information pertaining to the amounts of water diverted was obtained from the Watermaster, and the data on water wasted by the spreading facilities has been compiled by District personnel. I have reviewed the data, and to the best of my knowledge, the values are accurate.

We hope this information will assist in completing your annual report for 1972-73 for the Raymond Basin and in the future we will cooperate with your office in making monthly reports on the amount of water spread by diverters in the Raymond Basin.

Yours very truly,

C. J. Reinhard

C. J. Reinhard
Supervising Civil Engineer II

CJR:tk

California. Dept. of Water Resources.
Bulletin.